

2021

## Establishing State Responsibility in Mitigating Climate Change under Customary International Law

Vanessa S.W. Tsang  
*Columbia Law School*

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### Recommended Citation

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Establishing State Responsibility in Mitigating Climate Change  
under Customary International Law

*Vanessa S. W. Tsang*

Submitted in partial fulfillment of the requirements  
for the degree of Master of Laws in the  
School of Law  
Columbia University

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## I. INTRODUCTION

As acknowledged in the Paris Agreement's Preamble, climate change is a "common concern of humankind." To tackle the anthropogenic greenhouse gases (GHGs<sup>1</sup>) at source, State governments played a pivotal role in implementing climate change policies. It thus justifies the approach of looking into the solutions to climate change from a state responsibility perspective. As mentioned by James Crawford, "[a]ny system of law must address the responsibility of its subjects for breaches of their obligations."<sup>2</sup> The finding of state responsibility in mitigating climate change will complement the treaty-based climate change regime, providing grounds for climate change litigations and policy formulation.

More than 50 years ago, the International Court of Justice (ICJ) stated that there are two types of state responsibility in *Barcelona Traction*<sup>3</sup>: a state-to-state duty and *obligations erga omnes* (i.e., duties owed to the international community as a whole). Later, the International Law Commission (ILC) codified the state responsibility principles in the Articles on the Responsibility of States for Internationally Wrongful Acts (ARSIWA).<sup>4</sup> In the context of climate change, the issue is that there is currently no international authority directly recognizing the state responsibility to mitigate climate change, except in climate change treaties and soft law. Thus, this article seeks to broaden such state responsibility by drawing inferences from general principles and establishing new legal grounds. States owe an obligation not to cause harm to one another under the no-harm principle. There is also a due diligence obligation to prevent climate change harm. The joint-and-several duties and common-but-different-responsibility (CBDR) principles emphasize that such duties are shared collectively by States. By adopting the human rights approach, it argues that States' climate change obligations are *erga omnes*. The recent trend of creating rights for nature will further contribute to state responsibility's jurisprudence to mitigate climate change.

For the structure of this article, Part II will explain the background and motivation of research. Part III will briefly introduce the law of state responsibility. Part IV will discuss the details of the duty to mitigate climate change. There is a conclusion in Part V.

## II. BACKGROUND

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<sup>1</sup> I.P.C.C., *Annex I: Glossary*, GLOBAL WARMING OF 1.5°C. at 550-551 (J.B. R. Matthews et al. ed., 2018) [hereinafter I.P.C.C., *Glossary*]: GHGs refer to the atmosphere's gaseous constituents, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of terrestrial radiation emitted by the Earth's surface, the atmosphere itself, and by clouds. Water vapor (H<sub>2</sub>O), carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>), and ozone (O<sub>3</sub>) have been identified as the primary GHGs on Earth. There are also entirely human-made GHGs, such as halocarbons and other chlorine-and bromine-containing substances, such as sulfur hexafluoride (SF<sub>6</sub>), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).

<sup>2</sup> James Crawford, *Ch. 1 Historical Development, Part 1, STATE RESPONSIBILITY: THE GENERAL PART 3* (Cambridge Univ. Press, 2013) [hereinafter Crawford, *GENERAL PART*].

<sup>3</sup> *Barcelona Traction, Light and Power Company, Limited (Belg. v Spain)*, Second Phase, Judgment, 1970 I.C.J. Rep., ¶33 (Feb. 5).

<sup>4</sup> G.A. Res. 56/83, Annex (Dec. 12, 2001) [hereinafter ARSIWA].

## A. Definition and Scope of Discussion

“Climate” is generally defined as the statistical description of the Earth’s climate system in terms of variables, such as temperature, precipitation, and wind.<sup>5</sup> According to the World Meteorological Organization, the classical period for averaging these variables is 30 years.<sup>6</sup> The Intergovernmental Panel on Climate Change (IPCC) further defined the term “climate change” as the state of the climate that can be identified by changes in the mean and the variability of its properties that persists for an extended period.<sup>7</sup> This article is interested in examining climate change in the past 30 years, ranging from the 1990s to the 2020s.

As acknowledged by the IPCC, climate change may be caused by natural processes, such as solar cycles and volcanic eruptions.<sup>8</sup> Human activities could also contribute to climate change by changing atmospheric composition and land use.<sup>9</sup> Here, a well-established scientific link is that the concentration of GHGs in the atmosphere directly links to the average global temperature.<sup>10</sup> The term “global warming” is generally defined as the estimated increase in the global mean surface temperature averaged over 30 years, expressed relative to pre-industrial levels.<sup>11</sup> Recent scientific evidence shows that the Earth’s surface at present is much warmer than that at the pre-industrial level (see Figure 1).

In the studies of climate change law, this article is interested in learning the factual and legal linkages between the conducts of State entities and climate change, to what extent States are responsible because of that, the consequences and the State actions demanded by international law in response to this environmental crisis. It predicted that international law would oblige States to mitigate climate change. Mitigation refers to the “human intervention to reduce emissions or enhance the sinks of GHG.”<sup>12</sup> In practice, it entails the formulation and implementation of climate change policies on renewable technologies, waste minimization, public transportation, etc.<sup>13</sup> Establishing state responsibility is only a first step. Future literature should examine the issues of breach, damage claimable, practice, and state responsibility implementation.<sup>14</sup> The details still require proof and support from expert evidence. This article approached the question of state responsibility as one of the general principles of public

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<sup>5</sup> I.P.C.C., *Glossary*, at 544.

<sup>6</sup> World Meteorological Organization, *What is Climate?*, COMMISSION FOR CLIMATOLOGY, <https://www.wmo.int/pages/prog/wcp/ccl/faqs.php>.

<sup>7</sup> I.P.C.C., *Glossary*, at 544.

<sup>8</sup> *Id.*

<sup>9</sup> *Id.*

<sup>10</sup> U.N., *Climate Change*, PEACE, DIGNITY AND EQUALITY ON A HEALTHY PLANET, <https://www.un.org/en/sections/issues-depth/climate-change/>.

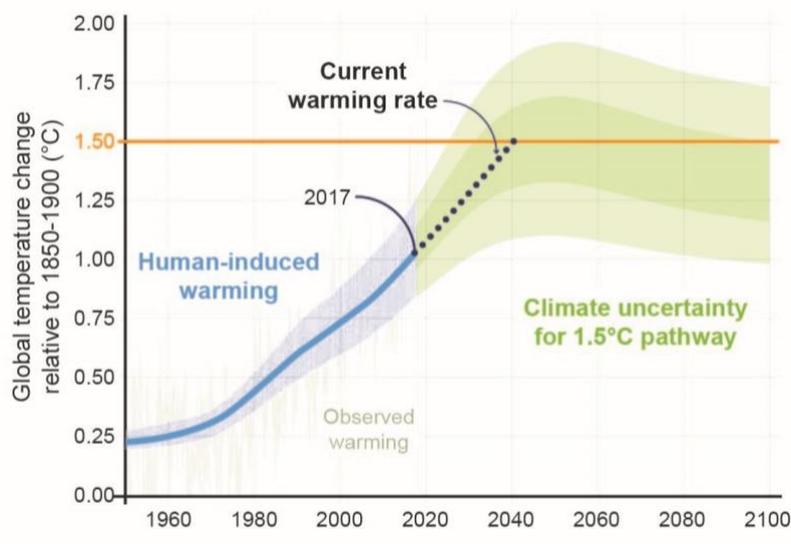
<sup>11</sup> I.P.C.C., *Glossary*, at 550.

<sup>12</sup> I.P.C.C., *Glossary*, at 554.

<sup>13</sup> *Id.*

<sup>14</sup> See, e.g., U.N.P.E. & Sabin Center for Climate Change Law, Columbia Univ., *THE STATUS OF CLIMATE CHANGE LITIGATION: A GLOBAL REVIEW* (2017); Sabin Center for Climate Change Law, Columbia Univ., *Climate Change Litigation Databases*, <http://climatecasechart.com>; Margaretha Wewerinke-Singh, *Ch. 9 Litigating Climate Change before Human Rights Bodies, Courts and Tribunals*, STATE RESPONSIBILITY, CLIMATE CHANGE AND HUMAN RIGHTS (Bloomsbury Publishing 2019) [hereinafter Wewerinke-Singh, HUMAN RIGHTS].

Figure 1. Human-induced warming reached approximately 1°C above pre-industrial levels in 2017<sup>15</sup>



international law. In the future, researchers may explore the criminality of causing climate change harm and the state responsibility therein under international criminal law.

## B. Treaty Law

Climate change has become a daunting problem threatening the survival of the human race and other Earth species. The international community acknowledged climate change and concluded the United Nations Framework Convention on Climate Change (UNFCCC)<sup>16</sup> in 1992, the Kyoto Protocol<sup>17</sup> in 1997, and the Paris Agreement<sup>18</sup> in 2015.

Parties to climate change treaties have the general obligation to mitigate climate change, mainly through reducing GHG emissions within the States' national jurisdictions. For example, according to Article 3(1) of UNFCCC, Parties have a general obligation to protect the Earth's climatic system. Article 3(2) stated the Parties' duty to take precautionary measure "to anticipate, prevent, or minimize the causes of climate change and mitigate its adverse effects." Article 4 stipulated the state responsibility to mitigate GHG emissions. In practice, Parties should "[f]ormulate, implement, publish and regularly update national and regional programs containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases..." (Article 4(1)(b)). At present, there are 197 parties to UNFCCC.<sup>19</sup> The UNFCCC has provided a framework for international cooperation. It further relies on the Kyoto Protocol and Paris Agreement to outline the Parties' commitments to reduce

<sup>15</sup> I.P.C.C., *FAQ 1.2 How close are we to 1.5°C?*, FAQ CHAPTER 1, <https://www.ipcc.ch/sr15/faq/faq-chapter-1/>.

<sup>16</sup> United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107 [hereinafter UNFCCC].

<sup>17</sup> Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, 2303 U.N.T.S. 162 [hereinafter Kyoto Protocol].

<sup>18</sup> Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104 [hereinafter Paris Agreement].

<sup>19</sup> U.N.F.C.C.C., *Status of Ratification of the Convention*, PROCESS AND MEETINGS (Nov. 27, 2018), <https://unfccc.int/process/the-convention/news-and-updates>.

domestic GHGs. As of June 2013, there were 192 parties to the Kyoto Protocol,<sup>20</sup> with Canada signed and withdrew from it in 2011,<sup>21</sup> and the United States signed but never ratified the protocol. As of November 2018, there were 195 parties to the Paris Agreement, with 183 states and the European Union ratified the agreement.<sup>22</sup> On top of the substantive obligations mentioned, Parties have to perform the treaties in good faith and adhere to their treaty obligations and treaty law under the Vienna Convention on the Law of Treaties (VCLT).<sup>23</sup>

These treaties were triumphs for climate change environmentalists. Nonetheless, a series of events occurred after their inceptions. For instance, the IPCC released the “Special Report: Global Warming of 1.5°C” in 2018 alerting that, “[g]lobal warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate. (high confidence).”<sup>24</sup> The United States, the world’s second-largest CO<sub>2</sub> emitter,<sup>25</sup> formally withdrew from the Paris Agreement in November 2020.<sup>26</sup> Before, the Swedish climate change activist Greta Thunberg addressed the world leaders at the UN’s Climate Action Summit that they had failed the young generation.<sup>27</sup> These events cast doubts on the effectiveness and the force of the treaty-based climate change regime.

The treaty-based regime may not have sufficient force to impose climate change state obligation for two main reasons. Firstly, the effectiveness of a treaty hinges on the States’ willingness to comply. From an instrumentalist point of view,<sup>28</sup> where the treaty obligation contradicts a State’s domestic policies’ objectives, States could abstain from participating in the treaty continuously. It was evident when some largest global GHG emitters worldwide, such as China, refrained from participating in the Kyoto Protocol. The United States, under the Bush Administration, refused to ratify the Kyoto Protocol after signing in 1998. Indeed, party States which have committed themselves initially may withdraw from a treaty anytime under the withdrawal clauses by consenting.<sup>29</sup> For instance, Parties can withdraw from the UNFCCC under Article 25 after the treaty has entered into force for three years. The Trump Government also invoked Article 28 of the Paris Agreement to withdraw from the Paris Agreement.

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<sup>20</sup> U.N.F.C.C.C., *The Kyoto Protocol - Status of Ratification*, PROCESS AND MEETINGS, <https://unfccc.int/process/the-kyoto-protocol/status-of-ratification>.

<sup>21</sup> U.N. Compliance Comm’n, Canada’s withdrawal from the Kyoto Protocol and its effects on Canada’s reporting obligations under the Protocol, U.N. Doc. CC/EB/25/2014/2 (Aug. 20, 2014).

<sup>22</sup> U.N.F.C.C.C., *Paris Agreement - Status of Ratification*, PROCESS AND MEETINGS <https://unfccc.int/process/the-paris-agreement/status-of-ratification>.

<sup>23</sup> Vienna Convention on the Law of Treaties art. 26, May 23, 1969, 1155 U.N.T.S. 331 [hereinafter VCLT].

<sup>24</sup> I.P.C.C., *Summary for Policymakers*, GLOBAL WARMING OF 1.5°C, at para A.1 (V. Masson-Delmotte et al. eds. 2018)

<sup>25</sup> Union of Concerned Scientists, *Each Country’s Share of CO<sub>2</sub> Emissions*, REPORTS & MULTIMEDIA/ EXPLAINER (Aug. 12, 2020, 1:10 PM), <https://www.ucsusa.org/resources/each-countrys-share-co2-emissions>.

<sup>26</sup> Press Statement, Michael R. Pompeo, Secretary of State, U.S. Department of State, On the U.S. Withdrawal from the Paris Agreement (Nov. 4, 2019).

<sup>27</sup> U.N., *Greta Thunberg tells world leaders ‘you are failing us’, as nations announce fresh climate action*, U.N. NEWS, (Sep. 23, 2019), <https://news.un.org/en/story/2019/09/1047052>.

<sup>28</sup> According to the instrumentalist theory, international law can change States’ behaviors only by creating constraints and opportunities that affect state interest. See Timothy Meyer, *Instrumentalism*, FUNDAMENTAL CONCEPTS FOR INTERNATIONAL LAW: THE CONSTRUCTION OF A DISCIPLINE (Jean d’Aspremont and Sahib Singh eds., Elgar, 2016).

<sup>29</sup> VCLT art. 54(b).

Furthermore, the Paris Agreement's force might be weak as it allowed Parties to set the GHG reduction goals voluntarily.<sup>30</sup> Unlike the Kyoto Protocol, which had imposed the GHG reduction targets from a top-down approach, the Paris Agreement allowed Parties the freedom to adjust their reduction goals, having considered their domestic needs and policies. The voluntary approach adopted under the Paris Agreement respects the sovereignty of States. On the flip side, it provides less motivation for Parties to assume more responsibilities and GHG abatement commitments.

### C. "Cli-lemma"

The classic theory of the tragedy of the commons might explain the situation of anthropogenic climate change.<sup>31</sup> The theory argues that our self-interest seeking desires and the negative externality created will eventually deplete the environmental commons. Here, international cooperation is conducive to escaping the tragedy for the human race. Nevertheless, the prisoner's dilemma in international politics makes collaboration more difficult for three reasons:<sup>32</sup>

- i. States are reciprocity-seeking. State actors tried to avoid paying the cost of cleaning the environment alone and did not tolerate free-riders taking advantage of the situation. For instance, the United States justified her reasons for not rectifying the Kyoto Protocol by arguing that China had not taken responsibility for reducing its carbon emissions.<sup>33</sup>
- ii. Some States may prioritize economic development over environmental protection in their policy agenda.
- iii. The implementation of climate change policies has proven to be politically sensitive. The commitments to reducing GHGs entail imposing stricter domestic environmental regulations, moving different political and business interests, such as the oil and gas industry. What makes a developed State more reluctant to participate in the climate change regime is requiring these States to undertake technological transfer and financing developing States to abate domestic GHGs.<sup>34</sup> The expense incurred may be hard to justify when citizens demand political leaders to prioritize national interests over aliens.

Under the United Nations Charter, the principle of sovereign equality is a primary rule governing States' relationship.<sup>35</sup> Before a treaty obligation can bind a State, the requirement of consent is an expression of the State's legal sovereignty. Under the current Westphalian order,

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<sup>30</sup> Paris Agreement art. 6.

<sup>31</sup> Garrett Hardin, *The tragedy of the commons*, 1 J. NAT. RESOUR. POLICY RES. 243 (2009).

<sup>32</sup> See, e.g., Karen Pittel & Dirk T.G. Rübhelke, *Transitions in the negotiations on climate change: from prisoner's dilemma to chicken and beyond*, 12 INT. ENVIRON. AGREEM-P 23 (2012).

<sup>33</sup> John Hovi et al., *Why the United States did not become a party to the Kyoto Protocol: German, Norwegian, and US perspectives*, 18 EUR. J. INT. RELAT. 129, 130 (2012).

<sup>34</sup> See, e.g., 1992 Rio Declaration on Environment and Development principle 35, Jun. 14, 1992, U.N. Doc. A/CONF.151/26 (vol. I) [hereinafter Rio Declaration]; The commitment to finance developing countries is based on the CBDR principle. See Rio Declaration principle 7; UNFCCC preamble & art. 3(1); Green Climate Fund, ABOUT GCF (Jun. 30, 2019), <https://www.greenclimate.fund/who-we-are/the-climate-challenge#the-big-picture>.

<sup>35</sup> U.N. Charter art. 2(1).

securing State consent is key to international cooperation to combat climate change. Therefore, the signing of climate change treaties was an important step to establish state responsibility in mitigating climate change. An issue here is how to bring the uncooperative States back to the regime network. Another problem is to ensure that the participating States comply with such obligations at least according to the minimum standard imposed under customary international law. Unlike the climate change treaties, which only bind Parties to the treaties, customary international law binds all States.<sup>36</sup>

#### D. Customary International Law

State responsibility may arise under treaties or general law.<sup>37</sup> In this article, we are interested in examining state responsibility under customary international law. “Customary international law is one of the two primary forms of international law, the other being the treaty.”<sup>38</sup> Article 38 of the ICJ Statute defines customary law as “evidence of general practice accepted as law.”<sup>39</sup> In the *North Sea Continental Shelf* case, the ICJ stated that customary international law could arise when there is an objective element of a practice among nations that is “extensive and virtually uniform” (*usus*).<sup>40</sup> It also requires evidence to prove that the States feel bound by the rule (*opinio juris sive necessitate*).<sup>41</sup> As said by the Court,<sup>42</sup>

“Not only must the acts concerned amount to a settled practice, but they must also be such, or be carried out in such a way, as to be evidence of a belief that this practice is rendered obligatory by the existence of a rule of law requiring it. The need for such a belief, i.e., the existence of a subjective element, is implicit in the very notion of the *opinio juris sive necessitatis*.”

The corresponding practice does not need to be conforming to the rule squarely,<sup>43</sup> but it will be sufficient if the conduct of the States is consistent with the law. If the conduct is inconsistent, it shall be treated as a breach of the rule rather than an indication of recognizing a new rule.<sup>44</sup> As to the element of *opinion juris*, the Court may deduce the States’ attitude from their attitudes towards specific General Assembly resolutions or declarations to infer their acceptance of the rule’s validity.<sup>45</sup>

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<sup>36</sup> Daniel Bodansky & J. Stand Watson, *State Consent and the Sources of International Obligation*. 86 PROCEEDINGS OF THE ASIL ANNUAL MEETING 108 (1992). It is argued that the *lex specialis* principle will not preclude the finding of state responsibility to mitigate climate change under customary international law, notwithstanding the climate change treaties. See *Report of the International Law Commission*, UNGAOR, 48<sup>th</sup> Sess., U.N. Doc. A/CN.4/L.682, at 22 (2006): “None of the treaty-regimes in existence today is self-contained in the sense that the application of general international law would be generally excluded.”

<sup>37</sup> Crawford, GENERAL PART, at 60.

<sup>38</sup> Jack L. Goldsmith et al., *A theory of customary international law*, UNIV. OF CHIC. LAW REV. 1113 (1999).

<sup>39</sup> Statute of the International Court of Justice, Art. 18, 1946, 33 U.N.T.S. 993 [hereinafter ICJ Statute].

<sup>40</sup> *North Sea Continental Shelf Cases* (West Ger. v Neth.; West Ger. v Den.), Judgment, 1969, I.C.J. Rep. ¶¶75-77 (Feb. 20) [hereinafter *North Sea Continental Shelf*].

<sup>41</sup> *Id.*

<sup>42</sup> *North Sea Continental Shelf*, ¶77.

<sup>43</sup> *Military and Paramilitary Activities in and against Nicaragua* (Nicar. v. US), Judgment, 1986 I.C.J. Rep., ¶186 (Jun. 27) [hereinafter *Nicaragua*].

<sup>44</sup> *Id.*

<sup>45</sup> *Nicaragua*, ¶¶188, 203.

Understanding the formation of customary international law is essential, especially when there is no formal confirmation of state responsibility customary international rule in mitigating climate change. As said by Roda Verheyen, “[d]ue to the difficulties in ascertaining State practice, customary law rules often remain vague and open . . . and some uncertainty may be inherent in the concept of law, especially when it has to be determined by inference and deduction. However, at the same time, the vagueness leaves ample space for interpretation.”<sup>46</sup> In part IV, this article will show that prima facie evidence shows the rise of a new customary international rule recognizing nature’s rights. As such, the law of state responsibility demands the States to protect nature’s rights by taking positive actions to mitigate climate change.

#### E. The Literature on State Responsibility and Climate Change

The state responsibility in mitigating climate change under customary international law is a recent development that has not been discussed extensively by any international authorities. The challenges are to identify the duty at its source and outline the extent of responsibility. This idea is not entirely novel in the sense that scholars have attempted to approach the question as one of the States’ obligation to pay for climate change damages. Among the first was Roda Verheyen, who published her book “Climate Change Damage and International Law: Prevention Duties and State Responsibility” in 2005.<sup>47</sup> Verheyen argued that there is a state obligation under customary international law to compensate an injured State under the no-harm principle.<sup>48</sup> Her approach was to establish the duty owed between States. Verheyen argued that the finding of state obligation to pay climate change damages is essential since the climate change treaties did not contain the relevant provisions on damages.<sup>49</sup>

Three years later, Christina Voigt also published the article “State Responsibility for Climate Change Damages” in 2008.<sup>50</sup> Voigt’s approach was similar to that adopted by Verheyen, in which they both argued that there is a general state obligation to prevent and compensate for damages.<sup>51</sup> Both of them also approached the question as one of negligence analogous to tort in the domestic system.<sup>52</sup> As claimed by Verheyen, “the no-harm rule is a primary rule which requires a showing of negligence.”<sup>53</sup> After that, Verheyen and Voigt looked into foreseeability,<sup>54</sup> due diligence standard under international law,<sup>55</sup> and the causation between a State’s conduct and climate change damages.<sup>56</sup>

Verheyen and Voigt’s contributions are significant since they have concretized the state obligation to compensate the States injured in climate change. However, their approach is also

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<sup>46</sup> Roda Verheyen, *CLIMATE CHANGE DAMAGE AND INTERNATIONAL LAW*, at 145-146 (Martinus Nijhoff Publishers, 2005) [hereinafter Verheyen, *CLIMATE CHANGE DAMAGE*].

<sup>47</sup> *Id.*

<sup>48</sup> *Id.* at 240.

<sup>49</sup> *Id.* at 142.

<sup>50</sup> Christina Voigt, *State responsibility for climate change damages*, 77 *NORD. J. OF INT. LAW* 1 (2008) [Hereinafter Voigt, *Climate change damages*].

<sup>51</sup> Voigt, *Climate change damages*, at 2-3,18.

<sup>52</sup> Verheyen, *CLIMATE CHANGE DAMAGE*, at 240; Voigt, *Climate change damages*, at 19.

<sup>53</sup> Verheyen, *CLIMATE CHANGE DAMAGE*, at 240.

<sup>54</sup> *Id.* at 178; Voigt, *Climate change damages*, at 11.

<sup>55</sup> Verheyen, *CLIMATE CHANGE DAMAGE* at 174; Voigt, *Climate Change Damages*, at 9.

<sup>56</sup> Verheyen, *CLIMATE CHANGE DAMAGE*, Ch. X; Voigt, *Climate Change Damages*, at 15-16.

restrictive and limited at the same time. For instance, Verheyen admitted that she had excluded the analysis on the field of human rights in her book.<sup>57</sup> Both of them also did not apply the law of state responsibility outside of the state-to-state relationship. Verheyen and Voigt's method in establishing state responsibility requires substantive proof of the factual linkages between the wrongdoing States' conduct and the harm caused to the injured States. Proving the causation in climate change can be challenging, given the intervening causes and complicated causal relationships between the Earth, nature, and human activities.

Margaretha Wewerinke-Singh suggested that founding the state responsibility under the international human rights law might be a more effective way to establish States' duty to mitigate climate change.<sup>58</sup> A key feature of international human rights law is that it creates *erga omnes* obligations based on the international community's legitimate interest.<sup>59</sup> Wewerinke-Singh argued that climate change would affect the right to self-determination, the right to life, the right to enjoy one's culture, and the right to enjoy the highest attainable standard of health, particularly.<sup>60</sup> Wewerinke-Singh has set the framework in bridging the law of state responsibility and international human rights law. The implication is profound as it entails a climate change-human rights action may be litigated at human rights treaty bodies.<sup>61</sup>

To conclude, previous works have argued that there is a state responsibility in mitigating global warming under the no-harm principle and preventive principle. There is also an obligation to prevent human rights violations in the context of climate change. However, as international law develops over time, scholars have yet to explore the topic of granting rights to nature in international law and its relationship with the law of state responsibility in mitigating climate change. As such, this article seeks to fill in this gap in the literature.

### III. THE LAW OF STATE RESPONSIBILITY AND CLIMATE CHANGE

#### A. General Principle

Article 1 of ARSIWA stated that “[e]very internationally wrongful act of a State entails the international responsibility of that State.” There is an “internationally wrongful act of a State when: (a) conduct consisting of an action or omission is attributable to the State, and (b) that conduct constitutes a breach of an international obligation (Article 2, ARSIWA).

Underlying the conception of state responsibility is that States' sovereign equality precludes the absolute freedom of conduct and the complete freedom from harm.<sup>62</sup> The burdens of socially desirable activities have to be shared equitably.<sup>63</sup> Indeed, States like the United States and Canada might withdraw from climate change treaties. It does not mean that their responsibilities in mitigating climate change end here. It is the sovereign right and freedom of

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<sup>57</sup> Verheyen, CLMATE CHANGE DAMAGE, at 1.

<sup>58</sup> Margaretha Wewerinke-Singh, STATE RESPONSIBILITY, CLIMATE CHANGE, AND HUMAN RIGHTS UNDER INTERNATIONAL LAW (Hart Publishing, 2019).

<sup>59</sup> *Id.* at 134.

<sup>60</sup> *Id.* Ch. 7.

<sup>61</sup> *Id.* at 158-161.

<sup>62</sup> Alan E. Boyle, *State Responsibility and International Liability for Injurious Consequences of Acts not Prohibited by International Law*, 39 INT'L & COMP. L.Q. 1, 5 (1990) [hereinafter Boyle, *Injurious Consequences*].

<sup>63</sup> *Id.*

States to formulate or abstain from developing domestic policies as they deem fit. However, such freedom is not absolute and without condition. The finding of state responsibility under customary international law means that the withdrawing Parties are still bound by the duty to mitigate climate change.<sup>64</sup> States should exercise their freedom within the limit under international law.

## B. Type of State Responsibility

State responsibility can generally be divided into primary obligation and secondary obligation.<sup>65</sup> The core idea of the rule is that a breach of a primary duty “gives rise, immediately by operation of the law of state responsibility, to a secondary obligation or series of such obligations,”<sup>66</sup> to preserve the primary obligation by eliminating the wrongful act and bring the wrongful situation to an end.<sup>67</sup> If we can establish the state responsibility to mitigate climate change in the context of climate change, States’ conduct to remain business as usual in allowing GHGs emissions may be ceased. States would be obliged to participate in climate change cooperation and implement national policies to abate domestic GHG emissions. The primary and secondary obligations are also often termed as “responsibility” (the obligations of States) and “liability” (the consequences which ensue from a breach of those obligations).<sup>68</sup> In the context of transboundary harm, the liability concerned does not only cover the duty of reparation, but it includes a whole range of duties of notification, information, consultation, and harm prevention.<sup>69</sup> The “purely preventive” obligation, i.e., the obligation to take all reasonable precautions to prevent or minimize the risk,<sup>70</sup> also applies. Indeed, the operations of a nuclear plant, smelter, or oil tanker are not prohibited absolutely. Instead, “[i]t is the act of causing harm, rather than the activity producing the harm, which is prohibited.”<sup>71</sup> As pointed out, “[n]o one doubts the essential message of the *Trail Smelter*<sup>72</sup> and *Corfu Channel*<sup>73</sup> cases and the Stockholm Declaration that, transboundary harm, even if unintended, can be wrongful and therefore prohibited.”<sup>74</sup> In climate change, allowing the production of GHGs is not itself prohibitable. Inevitably, human activities, such as agriculture, transportation, shipping, forestry, factory

<sup>64</sup> 2 Y.B. Int’l Comm’n, U.N. Doc. A/CN.4/SER.A/1986/Add.1, at 152, paras. 34-41, 63-64 (1986).

<sup>65</sup> Yoshiro Matsui, *The Transformation of the Law of State Responsibility*, 20 THES. ACROASIMUM 5, 6 (1993); J. Combacau & D. Alland, “Primary” and “Secondary” Rules in the Law of State Responsibility: Categorizing International Obligations”, 26 NETH. YEARB. OF INT. LAW 81 (1985) [hereinafter Combacau & Alland, *Primary and Secondary*].

<sup>66</sup> J. Crawford, *The ILC’s Articles on Responsibility of States for Internationally Wrongful Acts: A Retrospect*. AM. J. OF INT’L L. 874, 876 (2002).

<sup>67</sup> Combacau & Alland, *Primary and Secondary*, at 94; United States diplomat and consular staff in Tehran, Judgment, 1980 I.C.J. Rep., ¶69 (May 24).

<sup>68</sup> Legal Consequences for States of the Continued Presence of South Africa in Namibia, Advisory Opinion, 1971 I.C.J. Rep., ¶118 (Jun. 21).

<sup>69</sup> Julio Barboza (Special Rapporteur), Fourth report on international liability for injurious consequences arising out of acts not prohibited by international law, U.N. Doc. A/CN.4/413, para. 56 (1988)

<sup>70</sup> *Id.*

<sup>71</sup> Boyle, *Injurious Consequences*, at 12.

<sup>72</sup> Trail Smelter Arbitration (U.S. v Can.), Award, III U.N.R.I.A.A. 1905 (1938) [hereinafter *Trail Smelter*].

<sup>73</sup> Corfu Channel (U.K. v. Alb.), Merits, Judgment, 1949 I.C.J. Rep. 4 (Apr. 9).

<sup>74</sup> 2 Y.B. Int’l Comm’n, U.N. Doc. A/CN.4/SER.A/1981/Add.1, at 115, para. 54 (1981).

productions, etc., would produce some GHGs.<sup>75</sup> The issue is that such activities should not be undertaken in the demise of the well-being of other vulnerable States, groups, parties, and planet Earth.

The Court in *Barcelona Traction* stated that there are two types of state responsibility.<sup>76</sup> The first type is the state-to-state duty. The state-to-state duty is founded on finding harm and injury posed by one State to the others. The second type is *erga omnes obligations*. The Latin phrase *erga omnes* describes a duty owed towards all.<sup>77</sup> Here, all States have legal interests in protecting the rights involved.<sup>78</sup> This conception of State duty goes beyond the natural law approach of State consent and sovereignty. Instead, it focused on the rights and legitimate interests shared by the international community as a whole. In ARSIWA, the recognition of States' *erga omnes* obligations is provided in Article 48(1), which said

“[a]ny State other than an injured State is entitled to invoke the responsibility of another State . . . if the obligation breached is owed to a group of States . . . and is established for the protection of a collective interest of the group (*erga omnes partes*), or the obligation breached is owed to the international community as a whole (*erga omnes obligations*).”

Exploring the state responsibility to mitigate climate change as one of *erga omnes* duties is essential in climate change. Climate change is a planetary event involving multiple State actors and conducts committed by public and private entities. The concept of *erga omnes obligations* will be relevant to the discussions of environmental *erga omnes*, protecting human rights, and nature's rights in climate change.

### C. Attribution

Articles 1 and 2 of ARSIWA provided that the law of state responsibility makes States responsible for conduct attributed to them. Attribution is a question determined based on the criteria under international rather than merely hinging on factual causality.<sup>79</sup> In law, a State is an abstract entity granted a legal person's status and the full authority to act under international law.<sup>80</sup> In reality, a State can only act through its agents and representatives.<sup>81</sup>

Articles 4 to 8 of ARSIWA provided that the conduct of any State organ or any person or entity empowered by the law of that State, or is controlled and acts under the instruction by the State may be attributable to a State. Under Article 4(1), the organ may be exercising the legislative, executive, judicial, or any other functions of the State, be it the central government or

<sup>75</sup> U.S.E.P.A., *Global Emissions by Gas, Global Greenhouse Gas Emissions Data*, GREENHOUSE GAS EMISSIONS (Sep. 10, 2020), <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data>.

<sup>76</sup> *Barcelona Traction*, ¶33.

<sup>77</sup> Ardit Memeti & Bekim Nuhija, *The concept of erga omnes obligations in international law*, 14 NEW BALKAN POLITICS 31, at 32 (2013).

<sup>78</sup> Sir Robert Jennings & Sir Arthur Watts, Session 125 *Protection of the environment*, OPPENHEIM'S INTERNATIONAL LAW, VOLUME 1: PEACE, at 415 (1992).

<sup>79</sup> Crawford, GENERAL PART, at 114; ARSIWA Commentary, Pt I, Ch. II, §4.

<sup>80</sup> U.N., *Materials on the Responsibility of States for Internationally Wrongful Acts*, U.N.L.S., U.N. Doc. ST/LEG/SER.B/25, at 92 [hereinafter Materials on ASIWA].

<sup>81</sup> See I. Brownlie, SYSTEM OF THE LAW OF NATIONS: STATE RESPONSIBILITY, PART 1, at 132-166 (Oxford, Clarendon Press, 1983) [hereinafter Brownlie, SYSTEM OF STATE]; German Settlers in Poland, Advisory Opinion, 1923 P.C.I.J. Ser. B No. 6, 22, (Sep. 10).

a territorial unit. However, unless the State exercises control in every aspect of production, most domestic anthropogenic GHGs are not produced by State organs but private entities. Under the law of state responsibility, the conducts of private persons and entities are generally not attributed to a State unless they are acting under the instruction, direction, or control of that State.<sup>82</sup> It would generally be absurd to say that private individuals and corporations emit GHGs with the State government's instruction in climate change. On this issue, it is trite that the conduct attributable to a State can be a positive act or an omission.<sup>83</sup> For example, in *Corfu Channel*,<sup>84</sup> the Court found that Albania was liable for its omission, as Albania had allowed mines in its territorial waters. Yet, she did not warn the third States of their existence. In climate change, a State's failure to formulate and implement climate change laws and industry regulations to abate domestic GHG emissions constitutes an omission. The inaction of the State may encourage private actors to remain business as usual in emitting GHGs.<sup>85</sup>

#### D. Extent of Duty

If there is a state responsibility, what steps and how far should a State take to prevent climate change? Does international law hold such state duty as one of strict and absolute responsibility?

##### 1. Strict Liability

There seems to have no strict liability for international environmental harm, even though the ILC believed that there is room for considering the scope and extent of such strict liability.<sup>86</sup> In any case, whether there is strict liability depends on whether the primary obligation of States to prevent harm is itself defined in absolute or qualified term: whether the obligation is one of diligent conduct or an absolute duty to avoid injury.<sup>87</sup> The merit of imposing strict liability is to shift the risk of environmental harm to States. As said in the English tort law case *Rylands v Fletcher*,<sup>88</sup>

“[T]he person who for his own purposes brings on his lands and collects and keeps there anything likely to do mischief if it escapes, must keep it in at his peril, and, if he does not do so, is prima facie answerable for all the damage which is the natural consequence of its escape.”

Applying *Rylands* in climate change, one may argue that the peril escaped is the GHGs produced in a domestic State. Here, it seems the strict liability rule could be invoked only after the “escape of the peril” and where the harm has occurred.<sup>89</sup> Climate change is an ongoing event

<sup>82</sup> Crawford, GENERAL PART, at141.

<sup>83</sup> Materials on ASIWA, ch. II.

<sup>84</sup> *Corfu Channel*, at 23.

<sup>85</sup> 2 Y.B. Int'l Comm'n, U.N. Doc. A/CN.1/SER.A/1971/Add.1, at 264, 283 (1971).

<sup>86</sup> Boyle, *Injurious Consequences*, at 114; *Report of the International Law Commission*, UNGAOR, 32<sup>nd</sup> Sess, U.N. Doc. A/CN.4/SER.A/1980/Add.1, 251-252, paras. 15-18 (1980).

<sup>87</sup> Boyle, *Injurious Consequences*, at15.

<sup>88</sup> U.K.H.L. 1 (1868).

<sup>89</sup> *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities*, 56 U.N. GAOR Supp. No. 49, U.N. Doc. A/RES/56/82, at 498 (2001) [Hereinafter Draft APTIHA]; U.N. I.L.C., *Articles on Prevention of Transboundary Harm from Hazardous Activities*, 56 U.N. GAOR Supp No. 10 (A56/10) (May 11, 2001)

that has happened for over a century. Thus, it is unclear at which point in time and history should we hold the wrongdoing States strictly liable. In any case, it would not be desirable that we only invoke state responsibility after we have experienced the full consequences of climate change. It leaves us with the argument that the state responsibility to mitigate climate change should cover a duty to prevent climate change harms. However, if climate change harms have been established, whether the duty to mitigate climate change is a strict liability is open for discussion.

## 2. Due Diligence

The duty to mitigate climate change covers a diligent preventive obligation.<sup>90</sup> Regarding the state duty to aliens, States have the duty to abstain and the duty to protect.<sup>91</sup> Due diligence applies to the duty to protect, but not to the duty to abstain.<sup>92</sup> States should use their best efforts to prevent individuals' harmful acts to carry out the duty to protect.<sup>93</sup> When harmful acts have occurred, the States have to punish those responsible.<sup>94</sup> The core concept is that a due diligence duty is an obligation of conduct "to behave" and "to endeavor."<sup>95</sup> As argued by Pierre-Marie Dupuy, "[w]hat counts here is the violation of the best effort obligation, not the end result achieved. It follows that an obligation of conduct cannot be considered, at the same time, as a sub-category of obligations of result."<sup>96</sup>

Whether climate change has already caused harm depends on the factual evidence. Whether the wrongdoing individuals are punishable depends on the legal system and the law in the domestic State. The State must, however, exercise due diligence. Its responsibility is excluded if the injury could not have been avoided, not even by using all necessary diligence.<sup>97</sup> Applying the due diligence analysis in climate change, the State's inaction and non-participation in climate change cooperation may constitute a breach of the duty to mitigate climate change. This argument is based on the premise that anthropogenic climate change is a State's behavioral problem, which is different from the method used by Verheyen and Voigt, who approached the question from a result perspective, i.e., the duty to pay and compensate for the climate change harms caused. This argument's benefit is that it presents a more effective way to invoke the state responsibility without going through the complicated steps in proving the factual links between the States' conduct and the harms caused.

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[Hereinafter APTHHA]. According to Article 2(b) of the APTHHA, "harm" means "harm caused to persons, property or the environment." "Transboundary harm" means "harm caused in the territory of or in other places under the jurisdiction or control of a State other than the State of origin, whether or not the States concerned share a common border" (Art. 2(c)).

<sup>90</sup> *Pulp Mills on the River Uruguay (Arg. v. Uru.)*, Judgment, 2010 I.C.J. Rep. 14, ¶101. (Apr. 20) [hereinafter *Pulp Mills*].

<sup>91</sup> Riccardo Pisillo-Mazzeschi, *The Due Diligence Rule and the Nature of International Responsibility of States*, 35 GER. YEARB. INTL. LAW 9, 38 (1992) [hereinafter Pisillo-Mazzeschi, *Due Diligence Rule*].

<sup>92</sup> *Id.* at 23.

<sup>93</sup> *Pulp Mills*, ¶101.

<sup>94</sup> *Id.*

<sup>95</sup> Pierre-Marie Dupuy, *Reviewing the difficulties of codification: on Ago's classification of obligations of means and obligations of result in relation to state responsibility*, 10 EUR. J. INT. LAW 371, at 379-380 (1999).

<sup>96</sup> *Id.*

<sup>97</sup> Roberto Ago, *Quatri é me rapport sur la responsabilit  des Etats*, II ANNUAIRE DE LA COMMISSION DU DROIT INTERNATIONAL (ACDI), 77 et seq., para. 143 (1972); Brownlie, *SYSTEM OF STATE*, at 168.

### 3. Fault

Overall, fault is not an element of the commission of an internationally wrongful act.<sup>98</sup> The conception of fault is generally understood as a psychological attitude of human will, which is difficult to transfer to the State as an abstract entity.<sup>99</sup> Instead, the state responsibility law highlighted an objective responsibility for the States to prevent and punish harmful activities.<sup>100</sup> Sir Ian Brownlie suggested that the notion of objective responsibility is predicated on the proof of a causal connection alone.<sup>101</sup> As Crawford clarified,<sup>102</sup> certain situations require the evidence of objective “intention” or “design” of a state action that are relevant justifications and excuses contained within ARSIWA Articles 20-25, such as consent, duress, and coercion. Unless the law provides otherwise, no delinquency, *culpa*, and *mens rea* need to be proven on the wrongdoing State.<sup>103</sup> As said,<sup>104</sup>

“To accept fault as a general condition in establishing responsibility would considerably restrict the possibility of a State being held responsible for the breach of an international obligation . . . . If the element of fault is relevant in establishing responsibility, it already follows from the particular rule of international law governing that situation, and not from being a constituent element of international responsibility.”

It follows that it may be objectionable to import the element of fault when establishing the state responsibility to mitigate climate change. Both Verheyen and Voigt claimed that foreseeability is an element of the no-harm principle and the due diligence duty to prevent harm.<sup>105</sup> In particular, the tort law conception of foreseeability in the domestic system, i.e., “should have known” or “ought to have known,” was discussed by the two authors.<sup>106</sup> Here, Verheyen relied on *Corfu Channel*, where the court had responded to an argument put forward by the United Kingdom, alleging that Albania had known its wrongful act.<sup>107</sup> In *Corfu Channel*, there was an explosion of mines in the Albanian waters that led to British naval personnel's death. The United Kingdom subsequently brought a claim against Albania for the damages caused by the explosion. In that case, the Court stated that States have a general obligation “not to allow knowingly its territory to be used for acts contrary to the rights of States.”<sup>108</sup>

The *Corfu Channel* judgment's correct interpretation is that the Court was founding Albania's state responsibility to pay damages, which is an obligation of reparation and a secondary

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<sup>98</sup> Boyle, *Injurious Consequences*, at 15-18.

<sup>99</sup> Boyle, *Injurious Consequences*, at 15.

<sup>100</sup> Pisillo-Mazzeschi, *Due Diligence Rule*, at 38; Pierre-Marie Dupuy, *The International Law of State Responsibility: Revolution or Evolution?*, 11 MICH. J. INT. LAW 105, at 127 (1989); Crawford, GENERAL PART, at 61.

<sup>101</sup> Brownlie, SYSTEM OF STATE, at 38-44.

<sup>102</sup> Crawford, GENERAL PART, at 61-61.

<sup>103</sup> *Id.*

<sup>104</sup> 2 Y.B. Int'l Comm'n, U.N. Doc. A/CN.4/SER.A/1998/Add.1, at 101 (1998).

<sup>105</sup> Verheyen, CLIMATE CHANGE DAMAGE, at 178-179: “In the context of the no-harm, rule, foreseeability is essential with regard to prevention duties, but also with respect to the legal situation *ex post*, i.e. when damage actually occurs.”; Voigt, *Climate change damages*, at 11-12.

<sup>106</sup> *Id.*

<sup>107</sup> *Corfu Channel*, at 17; Verheyen, CLIMATE CHANGE DAMAGE, at 179.

<sup>108</sup> *Corfu Channel*, at 22.

liability following after the breaches of the primary preventive and no-harm duties. As said by the Court,

“The Court therefore reaches the conclusion that Albania is responsible under international law for the explosions which occurred on October 22nd, 1946, in Albanian waters, and for the damage and loss of human life which resulted from them, and that there is a duty on Albania to pay compensation to the United Kingdom.”

Alternatively, the primary obligation to prevent harm and not cause injury was established because Albania had omitted to take any action to prevent the damage from occurring in the first place. As commented by the Court, “nothing was attempted by the Albanian authorities to prevent the disaster. These grave omissions involve the international responsibility of Albania.”<sup>109</sup> If we look at the *Trail Smelter* case, which established that States should use their best efforts to prevent cross-border pollution, the Tribunal did not mention that “knowledge” is an essential element of the State’s due diligent duty. There seems to have no trace of “knowledge” being the required element in establishing the no-harm principle and the preventive principle in international instruments and environmental treaties that have incorporated the same or similar principles.<sup>110</sup>

To conclude, state responsibility law does not require proof of subjective knowledge on the wrongdoing State. The advantage of this argument is that, even though the harm caused is not reasonably foreseeable by any human agent of the wrongdoing State, it would not preclude the finding of state responsibility to mitigate climate change.<sup>111</sup>

## E. Causation

### 1. Issues of causation in climate change

This article has identified six major (but not exhaustive) issues concerning proving causation in climate change.

- i. Every State (including the injured State) and actor in society could be a GHG emitter. It would not be fair only to attribute climate change to top global GHG emitters.
- ii. There is an issue of remoteness. Many factors are leading to the occurrence of climatic change events. For instance, if a tropical super-typhoon has caused the substantive loss of lives and property damages in the Philippines, does it make sense to hold the world’s top GHG emitters accountable for causing the super-typhoon and losses to the

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<sup>109</sup> *Corfu Channel*, at 23.

<sup>110</sup> See, e.g., *Declaration of the United Nations Conference on the Human Environment* principle 21, U.N. DOC. A/CONF.48/14/REV.1 (Jun.16, 1972) [Hereinafter Stockholm Declaration]; G.A. RES. 2995(XXVII), §1 (Dec.15, 1972); *United Nations Convention on the Law of the Sea* art. 194(2), 1833 U.N.T.S. 3 (Dec. 10, 1982); *Rio Declaration on Environment and Development* principle 2, U.N. DOC. A/CONF.151/26 (Jun. 14, 1992).

<sup>111</sup> The issue of foreseeability is, however, related to the question of damages claimable and whether the injury is too remote. See Crawford, GENERAL PART, 492; The Tribunal in *Trail Smelter* held certain damage to be “too indirect, remote, and uncertain”. See *Trail Smelter*, at 1931. Decision No. 7: Guidance Regarding Jus ad Bellum, Liability, 26 R.I.A.A., 15 (2007): “The inquiry is whether the chain of causation is sufficiently close in a particular situation.”

Philippines?<sup>9</sup> It seems anthropogenic GHGs can only be an indirect contributing factor to extreme weather but not a sufficient and direct cause for natural disasters.

- iii. There is an issue of concurrent causes. The formation of climate change events is influenced by natural processes and factors, such as warm air, air pressure, and humidity, that are not within human's control.<sup>112</sup> Some scientists even tried to find evidence to prove that global warming is nothing but the Earth repeating its natural climate change cycle.<sup>113</sup>
- iv. The injured States might have contributed to the harms suffered. They failed to take precautionary measures against natural disasters, for example, constructing disaster-proof buildings to protect their populations from a typhoon.
- v. The production of anthropogenic GHGs from one State alone is unlikely to cause climate change. The argument is that a State's conduct is unlikely to deplete the environmental commons, as the rate of recovery of nature may exceed the production rate of anthropogenic GHGs. However, when all States commit the wrongful acts together, their GHG emissions' aggregate sum will render the seemingly unarmful conduct to become harmful. In sum, this is the situation "where two sufficient causes are either present together or in succession on the same occasion or where one counteracts or renders impossible the normal operation of the other."<sup>114</sup>

To establish state responsibility in mitigating climate change, one should answer the causation issues listed above either from the facts or the law.

## 2. Causation in the Law

In the context of climate change, causation will be relevant to the establishment of a primary obligation to mitigate climate change and the damage for which reparation is due.<sup>115</sup> Here, two factual linkages have to be proven: the link between anthropogenic GHGs and climate change and the connection between climate change and the injuries caused. Given the intertwined and complicated relationship between different climate change factors, proving the linkages mentioned would not be an easy task.

Article 31(1) of ARSIWA provides that "a state is only under an obligation to make full reparation for injury *caused* by its internationally wrongful act." Here, the inquiry of whether a wrongful act causes injury is not only a question of factual causality, which is a necessary but not sufficient condition for reparation.<sup>116</sup> Whether there is a need for a causal link depends on what was stated in the primary rules.<sup>117</sup>

There seems to be little guidance given by the ILC on the level of causation required to establish the state responsibility to prevent transboundary environmental harm. Therefore, it is

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<sup>112</sup> Brian C. Howard, *Super Typhoon, Hurricane: What's the Difference?*, NATIONAL GEOGRAPHIC (Sep. 12, 2018), <https://www.nationalgeographic.com/environment/2018/09/super-typhoon-mangkhut-typhoons-vs-hurricanes/>.

<sup>113</sup> Alexander W. Tudhope, et al. *Variability in the El Niño-Southern Oscillation through a glacial-interglacial cycle*, 291 SCIENCE 1511 (2001).

<sup>114</sup> Herbert L. A. Hart & T. Honoré, CAUSATION IN THE LAW, 7 (OUP, Oxford, 1995) [hereinafter Hart & Honoré, CAUSATION].

<sup>115</sup> Crawford, GENERAL PART, at 499.

<sup>116</sup> *Id.* at 492.

<sup>117</sup> *Id.* at 493.

an open question as to the level of causation needed in establishing the state responsibility in mitigating climate change.

There are two general levels of causal requirement in law. The first level is that the cause must be a condition *sine qua non* of the harm. It means that the condition must be necessary for the production of injury.<sup>118</sup> The second level is where the cause must constitute an essential element within a jointly sufficient set of conditions. It is also necessary to keep in mind the interventions by a third-party actor who will break the causation chain.<sup>119</sup>

As suggested initially, climate change is not a recent phenomenon, but it has started and occurred for decades since the industrial revolution. The anthropogenic GHGs produced have accumulated over time. In the beginning, the GHGs produced may not be sufficient to cause any apparent changes in the atmosphere. However, climate change's dangers start to appear when the atmospheric GHG level reaches a tipping point.<sup>120</sup> The "boiling frog" effect might make us hard to detect the risks. We may finally notice the situation when the threat arises, and yet it may be too late for us to escape the consequences of climate change by then. In the boiling frog process, multiple breaches of the climate change duty might have been occurred and accumulated over time with numerous wrongful conducts.<sup>121</sup> On this issue, Verheyen proposed that the conception of cumulative causation should be applied.<sup>122</sup> She quoted the U.S. Court of Appeals of Maryland, which said, "[o]ne drop of poison in a person's cup, may have no injurious effect. But when a dozen, or twenty, or fifty, each put in a drop, fatal results may follow."<sup>123</sup> This article suggests that the notion of "cumulative causation" should be endorsed by considering the States' conducts accumulated in time and history to allow domestic GHG emissions. Article 15 of ARSIWA would support this position as it provides that an international obligation could be breached through a series of actions and omissions.

#### F. Joint-and-Several Duties

Climate change is a large-scale event involving multiple parties and a plurality of States. The conduct of one State alone is unlikely to be a sufficient condition causing significant impacts on the Earth's atmosphere. Instead, the State's duty to mitigate climate change should be established as joint-and-several duties conducted by several wrongdoing States.

There are two categories of situations arising when there is a plurality of responsible States.<sup>124</sup> The first category occurs when each of the State, together or separately, has breached its obligations. In this situation, the governing rule should be the basic principle of independent responsibility and standard attribution rules (Part I, Chapter II, ARSIWA).<sup>125</sup> Article 47(1) of ARSIWA has codified the rule and said that "[w]here several States are responsible for the same internationally wrongful act, the responsibility of each State may be invoked in relation to that

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<sup>118</sup> *Id.* at 499.

<sup>119</sup> Hart & Honoré, CAUSATION, at 5.

<sup>120</sup> Stephen Leathy, *Climate change driving entire planet to dangerous "tipping point"*, NATIONAL GEOGRAPHIC (Nov. 27, 2019), <https://www.nationalgeographic.com/science/2019/11/earth-tipping-point/>.

<sup>121</sup> Verheyen, CLIMATE CHANGE DAMAGE, at 255.

<sup>122</sup> *Id.* at 255.

<sup>123</sup> *Woodyear v Schaeffer*, 57 Md 1 (Md 1881) at 9f.

<sup>124</sup> Crawford, GENERAL PART, at 333.

<sup>125</sup> *Id.* at 333.

act.” Here, the responsibility of one State’s conduct is not diminished by another State’s responsibility for the same injury.<sup>126</sup> The second category arises when one State is implicated in the internationally wrongful act of another, usually through the provision of aid, assistance, by the exercise of control or coercion over the acting State (Articles 16-18, ARSIWA). In this situation, the second category rules are exceptions to the first category of rules. International authorities, such as the *Certain Phosphate Lands in Nauru* case<sup>127</sup> and the *Oil Platform* case<sup>128</sup>, showed that the joint-and-several duties doctrine exists under international law.

The duty to mitigate climate change can be established as one of the States’ due diligence duty to prevent climate change. This duty may arise independently and may not depend on the conduct of the other States. It may also occur as the second category of obligation. Where climate change injuries are proven, the duty to reparation arises as the second category of obligation. It is the aggregate of GHG emissions from different parts of the world that leads to climate change. The States’ omissions altogether have aided or assisted each omitting State in committing the wrongful act.

Approaching the issue of climate change as one of joint-and-several duties has the advantage of overcoming the problems in proving causation and attribution where several tortfeasors committed the wrongful acts in question.<sup>129</sup>

### G. Other Legal Principles

One problem with the international cooperation on climate change is that if all States bear the same share of responsibility in mitigating climate change, it renders unfairness towards the developing States. Developing States may not have the financial resources and capability comparable to those possessed by the Developed States to adopt GHG abatement technology. It would also not be fair to ask the developing States to bear the same liability taken by the Developed States in compensating the injured States or parties. The argument is that the amount of atmospheric GHGs accumulated should be attributed to those released by the developed States during the industrial revolution. Therefore, it is unfair towards the developing states if we attribute the historical GHG emissions to the developing states.

In this light, the CBDR principle and the de minimis principle should be invoked together with the law of State responsibility. Countries such as Indonesia, Mexico, Turkey, Brazil, and South Africa, are currently sharing 1% of the global GHG emissions separately, whereas China and the United States share 28% and 15%, respectively.<sup>130</sup> In the context of international cooperation in environmental protection, the CBDR principle is a well-established international

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<sup>126</sup> *Id.* at 336.

<sup>127</sup> *Certain Phosphate Lands in Nauru (Nauru v. Austl.)*, 1992 Judgement, I.C.J. Rep. 240, 285 (Jul. 13) (Separate Opinion by Shahabuddeen, J.): “I do not find it surprising that, in regard to Nauru, the view has been expressed ‘that the three countries are jointly and severally responsible under international law for the administration of the territory’ . . . I think this view is to be preferred to the view that the responsibility was exclusively joint.”

<sup>128</sup> *Oil Platforms (Iran v. US)*, Judgment, 2003 I.C.J. Rep. 161, 354, ¶ 66 (Nov. 3) (Separate Opinion by Simma, J.): “I venture to conclude that the principle of joint-and-several responsibility common to the jurisdictions that I have considered can properly be regarded as a ‘general principle of law’ within the meaning of Article 38, paragraph 1 (c), of the Court’s Statute.”

<sup>129</sup> *Id.* at 324. See Andre Nollkaemper & Michael Faure, *International Liability as an Instrument to Prevent and Compensate for Climate Change*, 43 STAN. J. INT’L L. 123, 167 (2008).

<sup>130</sup> Union of Concerned Scientist, *Supra* note 25.

legal principle that said that the developed states should bear relatively more responsibility in contributing to preserving and protecting the Earth's ecosystem (Principle 7, Rio Declaration).<sup>131</sup> Suppose the anthropogenic GHG contribution by a State is too small to be meaningful. In that case, the de minimis principle can be invoked to exclude legal actions for technical breaches of rules or where the breach's impact is negligible.<sup>132</sup> Applying the principles, state responsibility to mitigate climate change should be shared proportionately following the States' respective historical and present GHG emissions shares.<sup>133</sup>

Besides, it has been argued that the de minimis principle can be invoked alongside the precautionary principle.<sup>134</sup> The precautionary principle says that where there is a risk of serious or irreversible damage to the environment, the lack of scientific certainty shall not be used to prevent a State from implementing measures to prevent environmental degradation (Principle 15, Rio Declaration). The precautionary principle has been incorporated in different treaties, for example, Article 3.3 of the UNFCCC<sup>135</sup> and the Preamble of the Convention on Biological Diversity.<sup>136</sup> This principle was also recognized as customary international law by the ICJ in *Pulp Mills*,<sup>137</sup> where the Court adopted the principle in interpreting the 1975 Statute of the River of Uruguay. The precautionary principle also gained its recognition in the *Bluefin Tuna Cases*,<sup>138</sup> where it has been invoked ever since to deal with potentially dangerous activities to the environment.<sup>139</sup> In climate change, there are scientific uncertainties in proving the factual links between anthropogenic GHGs and climate change and that between climate change and the harms caused. However, such uncertainties shall not preclude the finding of State responsibility to prevent climate change. By relying on the precautionary principle, one may overcome the difficult task of proving climate change causation.

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<sup>131</sup> Principle 7: "States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities." Also see Simon Caney, *Cosmopolitan justice, responsibility, and global climate change*, 18 LEIDEN J. INT. LAW 4, 747-775, 772-774 (2005).

<sup>132</sup> Thomson Reuters, *De Minimis, Glossary*, PRACTICAL LAW, Thomson Reuters, [https://uk.practicallaw.thomsonreuters.com/1-382-3382?transitionType=Default&contextData=\(sc.Default\)](https://uk.practicallaw.thomsonreuters.com/1-382-3382?transitionType=Default&contextData=(sc.Default)).

<sup>133</sup> Verheyen, CLIMATE CHANGE DAMAGE, at 296-297.

<sup>134</sup> Per Sadin et al., Five charges against the precautionary, 5 J. RISK RES. 4, 297, 296 (2002).

<sup>135</sup> Relevant text: "The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost."

<sup>136</sup> Convention on Biological Diversity, Jun. 5, 1992, 1760 U.N.T.S. 79 [hereinafter CBD]. Relevant text: "Where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat," and "aware of the general lack of information and knowledge regarding biological diversity and of the urgent need to develop scientific, technical and institutional capacities to provide the basic understanding upon which to plan and implement appropriate measures."

<sup>137</sup> *Pulp Mills*, at ¶164.

<sup>138</sup> *South Bluefin Tuna (N.Z. v. Japan; Austl. v. Japan)*, Provisional Measures, Order of Aug. 2, 1999, ITLOS Rep. 280, ¶79.

<sup>139</sup> Also see Responsibilities and Obligations of States Sponsoring Persons and Entities with Respect to Activities in the Area, Advisory Opinion, Feb. 1, 2011, I.T.L.O.S. Rep. 10, ¶132.

## H. Consequences of Breach

A State may commit a breach if it has not used its best effort to take any positive actions or participate in international cooperation on preventing climate change. At this point, the wrongdoing States would be obliged to take steps to implement climate change policies. If climate change injuries could be established, the wrongdoing States may have the joint-and-several liability to make adequate reparation, subject to the limitations in law. In terms of reparation, this article does not intend to deal with the quantum of damages. Instead, it seeks to establish the liability of the wrongdoing States and briefly touch on the extent of secondary duty after breaching the primary obligation to mitigate climate change.<sup>140</sup>

### 1. Injury

According to Article 31(2) of ARSIWA, “[i]njury includes any damage, whether material or moral, caused by the internationally wrongful act of a State.” There is no general requirement for damage to be a necessary element of an internationally wrongful act.<sup>141</sup> As to the meanings of “material” and “moral” injuries, Crawford said that,<sup>142</sup>

“Material damage refers to damage to property or other substantive interests of a state and its nationals which is assessable in financial terms. Moral damage encompasses two distinct concepts: moral damage to a state and moral damage to a state’s nationals. Moral damage to individuals includes such things as individual pain and suffering, loss of loved ones or the personal affront associated with an intrusion into one’s home or private life. Moral damage to a state refers to injury which is not financially assessable but amounts to an affront to the state, for example, a violation of its sovereignty or territorial integrity . . . The absence of material or moral damage does not mean that no responsibility arises. It merely means that there is no damage for which reparation is due. Responsibility still arises where there is only ‘legal injury’, but the consequences of such responsibility are limited to the obligation of cessation and the provision of assurances and guarantees of non-repetition, if appropriate.”

Accordingly, it is submitted that climate change damages, *prima facie*, encompass all types of damages, both material and moral. For instance, climate change can lead to higher water content, thus more extreme rainfall patterns.<sup>143</sup> Farmers may suffer from economic loss due to the excessive pressure from drainage, dredging, damming, pollution, extraction, and silting, leading to crop failures.<sup>144</sup> There are also moral losses as extreme weather events may cause physical injuries and deaths. The rising sea level may inundate coastal areas, especially SIDCs and coastal regions.<sup>145</sup> People who have lost their homes will become environmental migrants and

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<sup>140</sup> ARSIWA art. 28.

<sup>141</sup> Draft Articles on Responsibility of States for Internationally Wrongful Acts art. 31, para. 6, U.N. Doc. A/56/10 Supp. No. 10, chp. I.V.E.1 (2001) [hereinafter Draft ARSIWA].

<sup>142</sup> Crawford, *GENERAL PART*, at 486-487, 489.

<sup>143</sup> WWF, *THE EFFECTS OF CLIMATE CHANGE*, <https://www.wwf.org.uk/learn/effects-of/climate-change>.

<sup>144</sup> *Id.*

<sup>145</sup> Hartwig Schafer, *Bracing for climate change is a matter of survival for the Maldives*, WORLD BANK BLOGS, World Bank Group (Jan. 20, 2019), <https://blogs.worldbank.org/endpovertyinsouthasia/bracing-climate-change-matter-survival-maldives>.

refugees. Crawford mentioned that the absence of material and moral damages might not be a bar to invoking state responsibility. Accordingly, a non-injured State may invoke the state responsibility to mitigate climate change under the principle of *erga omnes obligations* and Article 48(1) of ARSIWA.<sup>146</sup>

## 2. Cessation and Guarantee of Non-Repetition

Article 29 of ARSIWA stated that the wrongdoing States should continue with the obligations breached. Article 30 provides that the wrongdoing States must cease to continue with the wrongful act and guarantee non-repetition. The ICJ has confirmed the duty of cessation under international law.<sup>147</sup> In cases of omission, the result of the obligation of cessation may be indistinguishable from restitution. However, the distinction between the two may lie in that restitution is subject to limitations, but cessation is not.<sup>148</sup> Also, there may be an obligation of cessation even if an injured State declines to seek restitution.<sup>149</sup>

## 3. Reparation

“It is a principle of international law that the breach of an engagement involves an obligation to make reparation in an adequate form.”<sup>150</sup> Reparation aims to “wipe out all the consequences of the illegal act and re-establish the situation which would, in all probability, have existed if that act had not been committed.”<sup>151</sup> A common form of reparation is financial compensation. However, there are limits to what an injured State can claim. The injured States bear the duty to mitigate its loss. Otherwise, it will be a bar to its claim for compensation.

Further, causation will be an issue in a claim for state liability to pay damages. Here, causation functions as a cap or limit to the extent of damages claimable against the wrongdoing States. The issues of “directness,” “foreseeability,” and “proximity” are involved.<sup>152</sup> A particular causal problem in climate change is that climate change injuries would arise out of a list of

<sup>146</sup> Crawford, GENERAL PART, at 489-491.

<sup>147</sup> See, e.g., Jurisdictional Immunities of the State (Ger. v. It.; Greece intervening), Judgment, 2012 I.C.J. Rep., at ¶¶137, 139 (Feb. 3): “According to general international law on the responsibility of States for internationally wrongful acts, as expressed in this respect by Article 30(a) of the International Law Commission’s Articles on the subject, the State responsible for an internationally wrongful act is under an obligation to cease that act, if it is continuing”; Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion, 2004 I.C.J. Rep., at ¶151 (Jul. 9).

<sup>148</sup> ARSIWA art. 35; Draft ARSIWA arts. 30, paras. 7-8; art. 43, para. 6.

<sup>149</sup> *Id.*

<sup>150</sup> *Factory at Chorzów Case (Jurisdiction)*, at ¶55.

<sup>151</sup> *Factory at Chorzów (Germ. v. Pol.)*, Merits, Judgment, 1928 P.C.I.J. (ser. A) No. 17, at ¶47 (Sep. 13). The principle of reparation was affirmed on numerous occasions, including by the ICJ and human rights courts and committees. See e.g., Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Bosn. & Herz. v. Serb. and Montenegro), Judgment, 2007 I.C.J. Rep. 43, at 232 (Feb. 26); Ahmadou Sadio Diallo (Guinea v. Dem. Rep. Congo), Judgment, 2010 I.C.J. Rep. 43, at 459-470 (Nov. 30); Papamichalopoulos v. Greece, 16 Eur.Ct.H.R. 440 (1993); Velásquez-Rodríguez Case, Judgment, Inter-Am. Ct. H.R. (ser. C) No. 7 (Sep. 10, 1989).

<sup>152</sup> Crawford, GENERAL PART, at 492; Draft ARSIWA, Commentary, art. 31, para. 10; U.N. Compensation Comm’n, S. C. Res. 687, at ¶16 (Apr. 8, 1991): It was held that Iraq was responsible for “direct” loss; *Trail Smelter*, at 1931; Administrative Decision No. 2, 7 R.I.A.A. 23, 30, 1923: The US-Germany Mixed Claims Commission considered whether damage was a “loss attributable to Germany’s act as a proximate cause”.

concurrent factors. It seems the ILC believed that the combined factors would not reduce the reparation for the concurrent causes,<sup>153</sup> but a contribution by the injured States will if the conduct of the injured State is wilful and negligent (Article 39, ARSIWA).

In the situation of a plurality of injured States, Article 46 of ARSIWA provided that the injured States may separately invoke the wrongdoing State's responsibility. An example is the *Nuclear Test* case, in which Australia and New Zealand both claimed that France had violated the right of all States to be free from atmospheric nuclear weapons testing.<sup>154</sup> Here, invoking Article 46 will be relevant to establishing state duty to mitigate climate change, as climate change is a global event that would affect many countries.

It seems punitive damage is not recognized under international law.<sup>155</sup> The case authorities have shown that the courts or tribunals consistently rejected the notions of punitive damage.<sup>156</sup> Besides, restitution, rehabilitation, and satisfaction, such as apologies, may be appropriate remedies for the injured States or parties.<sup>157</sup>

### I. Burden of Proof

In a bilateral dispute, the general position is that the claimant State bears the burden of proving the establishment of state responsibility. Should an adjudicatory body find that the wrongful conduct in question is attributable to a respondent State and that State relies on circumstances precluding the wrongfulness, the burden will shift to the respondent State.<sup>158</sup>

## IV. THE DUTY TO MITIGATE CLIMATE CHANGE

It is argued there are primary obligations for States to mitigate climate change. Such an obligation would exist as one of due diligent preventive duty independent of any climate change treaties, of which omission would constitute a breach of the obligation. Where climate change injury is proven, the no-harm principle may be invoked. There is a secondary liability for the wrongdoing States to compensate the injured States or parties where damages could be established. Even if damages could not be proven, there is a liability for States to cease inaction or remaining business as usual. The wrongdoing States would be obliged to participate in climate change cooperation, formulate, and implement climate change policies. There is also a duty to guarantee non-repetition of their internationally wrongful acts. As climate change involves a plurality of States, the obligations would be established as joint-and-several obligations. The duty is likely to be found against the world's top GHG emitters. An outstanding issue here is to identify

<sup>153</sup> Draft ARSIWA, Commentary, art. 31, para. 12: "Although, in such cases, the injury in question was effectively caused by a combination of factors, only one of which is to be ascribed to the responsible State, international practice and the decisions of international tribunals do not support the reduction or attenuation of reparation for concurrent causes." See, e.g., *Corfu Channel*, at 23.

<sup>154</sup> *Nuclear Tests (N.Z. v. Fr.)*, Judgment, 1974 I.C.J. Rep. 457 (Dec. 20) and *Nuclear Tests (Ausl. v. Fr.)*, Judgment, 1974 I.C.J. Rep. 253 (Dec. 20) [hereinafter *Nuclear Tests*].

<sup>155</sup> Verheyen, CLIMATE CHANGE DAMAGE, at 248.

<sup>156</sup> See e.g., *Velásquez-Rodríguez Case, Compensation*, Inter-Am.Ct.H.R. (ser. C) No. 7, 10 (Jul. 7, 1989); *Varnava and Others v. Turkey*, Eur.Ct.H.R. 16064/90, at ¶223 (2009).

<sup>157</sup> Crawford, GENERAL PART, Ch. 16

<sup>158</sup> Crawford, GENERAL PART at 320; Appellate Body Report, *EC-Tariff Preferences*, ¶88, WT/DS246/AB/R (adopted Apr. 7, 2004).

the interests which merit the protection against climate change injury. Applying *Barcelona Traction*, it is contended that the duty to mitigate climate change exists as one of state-to-state duty and an *erga omnes* obligation to protect human rights and the rights of nature.

### A. State-to-state Duty

The wrongdoing States owe a duty not to cause climate change harm. States also have a collective duty to prevent climate change harm to vulnerable States in climate change.<sup>159</sup>

#### 1. No-harm Principle

The no-harm principle was established in *Trail Smelter* and was confirmed by later international authorities.<sup>160</sup> The principle stated that no State has the right to use or permit its territory in a manner that causes serious injury to the territory of another or the properties or persons therein.<sup>161</sup> The origin of the no-harm principle can be found in the Latin maxim *sic utere tuo ut alienum non laedas* (meaning “use your property in such a way not to harm others”).<sup>162</sup> As such, the duty imposed by the no-harm principle can be classified as one of state-to-state duty, as it seeks to regulate the behaviors and relationship between neighboring states. Principle 21 of the Stockholm Declaration also stipulated that States should ensure that their jurisdictions or control activities do not cause damage to areas beyond their national jurisdiction.<sup>163</sup> In ARSIWA, Article 42 provides that,

State is entitled as an injured State to invoke the responsibility of another State if the obligation breached is owed to:

- (a) Specifically affects that State; or
- (b) Is of such a character as radically to change the position of all the other States to which the obligation is owed with respect to the further performance of the obligation:
  - (i) Specifically affects that State; or
  - (ii) Is of such a character as radically to change the position of all the other States to which the obligation is owed with respect to the further performance of the obligation.

Article 42(a) encompasses the situation where the victim was directly injured or affected by the wrongdoer’s territories’ activities. Subparagraph (b)(i) allows multiple claimants to bring a claim against the wrongdoing State.<sup>164</sup> Subparagraph (b)(ii) is analogous to Article 60(2)(b) of VCLT, which stipulated that the breach concerned should be “of such a character that a material breach

<sup>159</sup> See Principle 6 of the Rio Declaration: “The special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority.”

<sup>160</sup> *Trail Smelter*, at 1965. See Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons, 1996 I.C.J. Rep., at ¶29, (Jul. 8) [hereinafter *Nuclear Weapons Advisory Opinion*].

<sup>161</sup> *Id.*

<sup>162</sup> Sompong Sucharitkul, *State Responsibility and International Liability Under International Law*, 18 LOY. L.A. INTL & COMP. L.J., 825, at 829 (1996).

<sup>163</sup> Full text of Principle 21: “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.”

<sup>164</sup> Draft ARSIWA art. 42.

of its provisions by one party radically changes the position of every party with respect to the further performance of its obligations.” For instance, imagine State 1 and State 2 together have 100 units of GHG emission quota, which would lead to the global temperature rise that harms State 3 (the vulnerable State). If State 1 has already used up 98 units, then State 2 would commit a breach even if it uses three units only (Scenario A). If both State 1 and State 2 use three units and 70 units respectively (together 73 units), there would not be a breach (Scenario B). If all things remain the same as that in Scenario B, but one day suddenly, State 3 decides to use 30 units more (103 units in total), State 1 and State 2 will be jointly and severally liable to State 3 (Scenario C), even though State 1 has done all things necessary to minimize her national GHG emission (See Table 2). Invoking subparagraph (b)(ii) is essential in the context of establishing climate change duty, as it recognizes that whether the level of domestic GHG emission in a State’s territory would render that State to commit breach hinges on the level of GHG emissions in another State.

Table 2. Illustration for the Operation of Article 42(1)(b)(ii) of ARSIWA  
in the Context of Climate Change

|            | State 1<br>(GHG emission<br>unit) | State 1<br>(GHG emission<br>unit) | Total<br>(GHG emission<br>units at State 1 and<br>State 2 combined) | State 3<br>(Vulnerable)<br>injured? |
|------------|-----------------------------------|-----------------------------------|---|-------------------------------------|
| Scenario A | 3                                 | 98                                | 101   | Yes                                 |
| Scenario B | 3                                 | 70                                | 73  | No                                  |
| Scenario C | 3                                 | 70 + 30 = 100                     | 103   | Yes                                 |

N.B. If the total GHG emission units exceed 100 units, State 3 will be injured.

The invocation of the no-harm principle would require a certain threshold of damage to be proven. In the *Lac Lanoux* case, the Tribunal recognized the threshold as one of “serious injury.”<sup>165</sup> According to Article 1 of the Articles on the Prevention of Transboundary Harm from Hazardous Activities (APTHHA), the threshold is “significant harm.”<sup>166</sup> Such a threshold could be proven in climate change, where extreme weather events will pose serious dangers and harm to human life and properties in the injured State.

## 2. Preventive Principle

An injured State may invoke the no-harm principle when climate change injury can be proven. However, it may be “too late to say sorry” by invoking the no-harm principle after the injured States have experienced the full consequences of climate change. In this situation, the injured States may invoke the preventive principle.<sup>167</sup> In essence, this principle emphasizes the State’s duty to take proactive steps to minimize the risk of damages. As stated in *Pulp Mills*, international law requires States “to use all the means at its disposal in order to avoid activities which take place in its territory or any area under its jurisdiction, causing significant damage to

<sup>165</sup> *Affaire du lac Lanoux* (Spain v. Fr.), 7 R.I.A.A. 281 (1923).

<sup>166</sup> ILC, *supra* note 89.

<sup>167</sup> *Gabčíkovo-Nagymaros*, at ¶140; *Pulp Mills*, at ¶¶101-102, 181-189.

the environment of another State.”<sup>168</sup> Article 3 of the APTHHA said that “[t]he State of origin shall take all appropriate measures to prevent significant transboundary harm or at any event to minimize the risk thereof.” Article 1 stated that APTHHA applies to activities “not prohibited by international law which involve a risk of causing significant transboundary harm through their physical consequences.” Indeed, many GHGs like water vapor and CO<sub>2</sub> are generally considered harmless. They come from seemingly innocuous human activities. It is the aggregate of these “harmless” activities which eventually lead to a destructive planetary event.

### B. Obligations *Erga Omnes*

A State other than the injured State can invoke state responsibility when the duty breached is owed to a group of States and is established for the protection of a collective interest of the group (Article 48(1)(a), ARSIWA). The collective part concerned can be the environment or security of a region, such as a regional nuclear-free-zone treaty or a system to protect human rights.<sup>169</sup> It is invoked where the common interest is “over and above any interests of States concerned individually,”<sup>170</sup> with States attempting to set general standards of protection for a group of people and having assumed the obligations to protect non-State entities.<sup>171</sup> This Article 48(1)(a) can be invoked by a member of “a group,” “an arrangement,” or “an agreement.” There is nothing in the article preventing that member State from extending the protection to a broader community group. The survival of human civilization and many societies hinge on a climate system that is “normal” and habitable. It would be the common interest of the vulnerable States and parties to prevent climate change harms. To protect this collective interest, a party State to the UNFCCC may invoke Article 48(1)(a), notwithstanding any absence of injuries sustained by the invoking State.

Furthermore, Article 48(1)(b) would allow every State to invoke the state responsibility if the obligation breached is owed to the international community as a whole. Accordingly, each State is entitled as a member of the international community to invoke another State’s responsibility.<sup>172</sup> As said by Crawford, “[a]ll states are by definition members of this community and no further qualification is necessary to establish standing.”<sup>173</sup> Article 42(b) of ARSIWA allows an injured State to invoke *erga omnes* obligation. However, the application of Article 42(b) would be more limited than that of Article 48, as the injured State would be required to prove injury on its part first.<sup>174</sup>

This article argues that States have an *erga omnes* obligation to mitigate climate change on human rights protection ground. There may also be a new duty to protect the Earth’s environment, wild fauna, and flora (the “nature”).

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<sup>168</sup> *Pulp Mills*, at ¶101.

<sup>169</sup> Draft ARSIWA art. 48, para 7.

<sup>170</sup> *Id.*

<sup>171</sup> *Id.*

<sup>172</sup> Draft ARSIWA art. 48, at para. 10.

<sup>173</sup> Crawford, GENERAL STATEMENT, at 551.

<sup>174</sup> ARSIWA can be invoked only by State entities. Note that other convention or human rights treaties, regional or international, have established mechanisms to allow individuals’ claims. See, e.g., Protocol to the African Charter art. 5(3).

## 1. Human Rights

International human rights law is widely recognized and a well-developed body of international law. The Office of the United Nations High Commissioner for Human Rights (OHCHR) defined human rights as rights that we have simply because we exist as human beings. They are by no means granted by any States, nor were they rights conferred by treaties.<sup>175</sup> These rights are universal and *inherent* to us all, regardless of nationality, sex, national or ethnic origin, color, religion, language, or any other status.<sup>176</sup> Overall, human rights include fundamental rights, such as the right to life and “the rights that make life worth living,” such as food, work, health, and education.<sup>177</sup> Traditionally, human rights have been established to regulate States and protect citizens from State oppression. Later, it reflects the States’ obligations to intervene in another State and exercise the responsibility to protect.<sup>178</sup> The rationale for codifying human rights is to maintain international peace and humans dignity and worth.<sup>179</sup>

Treaties and international instruments have stipulated the protection of human rights. However, it is trite that the protection of human rights, such as the duty to protect life and property,<sup>180</sup> has been developed into customary international law.<sup>181</sup> Fundamental rights, such as the right to self-determination and freedom from racial discrimination, are *jus cogen* norms that are not derogable under international law. If we are born naturally with human rights, a global event like climate change, which affects many populations, would undoubtedly be the international community’s common concern.

### a. Identifying the Rights

The treaty-based human rights regime has established state responsibilities to promote, protect, and ensure the domestic systems protect the rights guaranteed. The human rights which are likely to be affected by climate change are summarised in Table 3. The list is unexhaustive.

Table 3. Human Rights Likely to be Affected by Climate Change

| International treaty/<br>instrument <sup>182</sup> | Human rights/ state responsibility  |
|--|---|
| UN Charter 1945                                    | <u>Human Rights:</u><br>- Arts. 55-56: Universality of human rights and fundamental freedom for all without distinction<br><u>State Responsibilities:</u> |

<sup>175</sup> OHCHR, Your Human Rights, <https://www.ohchr.org/en/issues/pages/whatarehumanrights.aspx>.

<sup>176</sup> *Id.*

<sup>177</sup> *Id.*

<sup>178</sup> S.C. Res. 1674, ¶4 (Apr. 28, 2006).

<sup>179</sup> U.N. Charter arts. 1(1), 56-57; G.A. Res. 217 (III) A, The International Bill of Human Rights (Dec. 10, 1948).

<sup>180</sup> See, e.g., United States Diplomatic and Consular Staff in Tehran (US v. Iran), Judgment, 1980 I.C.J. 3 (May, 24).

<sup>181</sup> See, e.g., East Timor (Port. V. Austl.), Judgment, 1995 I.C.J. 90 (Jun. 30); Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) notwithstanding Security Council Resolution 276, Advisory Opinion, 1971 I.C.J. 6 (Jun. 21).

<sup>182</sup> Apart from international instruments, provisions on the protection of human rights were stipulated in some regional arrangements, such as the European Convention on Human Rights (ECHR) and the African Charter on Human and People’s Rights (African Charter).

|  |   |
|--|---|
|  | <ul style="list-style-type: none"> <li>- Art. 1: States to maintain international peace and security, cooperate with the international community, and harmonize nations' actions.</li> </ul>  |
| International Bill of Rights<br>1948   | <p><u>Human Rights:</u></p> <ul style="list-style-type: none"> <li>- Art. 3: Life, liberty, and security of person</li> <li>- Rights listed under the Universal Declaration of Human Rights</li> </ul> <p><u>State Responsibilities:</u></p> <ul style="list-style-type: none"> <li>- Preamble: States to promote, respect, and observe human rights and fundamental freedoms</li> </ul>  |
| Convention relating to the<br>Status of Refugees 1951 <sup>183</sup>   | <p><u>Human Rights:</u></p> <ul style="list-style-type: none"> <li>- Art. 3: Non-discrimination</li> <li>- Art. 5: Continuity of residence</li> <li>- Arts. 17-18: Employment</li> <li>- Art. 21: Housing</li> <li>- Art. 22: Education</li> <li>- Art. 26: Freedom of movement</li> </ul> <p><u>State Responsibilities:</u></p> <ul style="list-style-type: none"> <li>- Art. 3: States to apply the Convention without discrimination</li> <li>- Relevant duties in relations to the rights stipulated</li> </ul>   |
| Convention on the Political<br>Rights of Women 1953 <sup>184</sup>   | <p><u>Human Rights:</u></p> <ul style="list-style-type: none"> <li>- Art. I: To vote</li> <li>- Art. II: To be eligible for election</li> <li>- Art. III: To hold public office and exercise all public functions</li> </ul> <p><u>State Responsibilities:</u></p> <ul style="list-style-type: none"> <li>- Preamble: States to recognize women's rights to take part in the government and have equal access to public services</li> </ul>   |
| Convention relating to the<br>Status of Stateless Persons<br>1954 <sup>185</sup>                               | <p><u>Human rights:</u></p> <ul style="list-style-type: none"> <li>- Art. 4: Religion</li> <li>- Art. 13: Movable and immovable property</li> <li>- Art. 14: Artistic rights and industrial property</li> <li>- Art. 15: Right of association</li> <li>- Ch. III: Gainful employment</li> <li>- Ch. IV: Welfare, including housing (Art. 21), public education (Art. 22)</li> <li>- Art. 26: Freedom of movement</li> </ul> <p><u>State Responsibilities:</u></p> <ul style="list-style-type: none"> <li>- Art. 3: States to apply the provisions of this Convention to stateless persons without discrimination</li> </ul> |
| Convention on the<br>Reduction of Statelessness<br>1961 <sup>186</sup>   | <p><u>Human Rights:</u></p> <ul style="list-style-type: none"> <li>- Arts. 1-5, 8-9: Granting nationality to stateless persons.</li> </ul> <p><u>State Responsibilities:</u></p> <ul style="list-style-type: none"> <li>- Relevant duties in relations to the obligations owed to stateless persons</li> </ul>  |
| International Convention<br>on the Elimination of All<br>Forms of Racial<br>Discrimination 1965 <sup>187</sup> | <p><u>Human Rights:</u></p> <ul style="list-style-type: none"> <li>- Art. 1: Meaning of racial discrimination: <ul style="list-style-type: none"> <li>o Any distinction, exclusion, restriction, or preference</li> <li>o Based on race, color, descent, or national or ethnic origin</li> </ul> </li> </ul>  |

<sup>183</sup> G.A. Res. 429 (V) (Dec. 14, 1950).

<sup>184</sup> G.A. Res. 640 (VIII) (Dec. 20, 1952).

<sup>185</sup> S.C. Res. 526A (XVII) (Apr. 26, 1954).

<sup>186</sup> Aug. 30, 1961, 989 U.N.T.S. 175.

<sup>187</sup> G.A. Res. 2106 (XX) (Dec. 21, 1965).

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|  | <ul style="list-style-type: none"> <li>○ Which has the purpose or effect of nullifying or impairing the recognition, enjoyment, or exercise . . . of human rights and fundamental freedoms.</li> </ul> <p><u>State Responsibilities:</u></p> <ul style="list-style-type: none"> <li>- Art. 4: States to punish those responsible for racial discrimination</li> <li>- Art. 5: States to guarantee the right of everyone without distinction</li> <li>- Art. 6: States to assure everyone within their jurisdiction adequate protection and remedies against any acts of racial discrimination</li> </ul>  |
| International Covenant on Civil and Political Rights 1966 (ICCPR) <sup>188</sup>               | <p><u>Human Rights:</u></p> <ul style="list-style-type: none"> <li>- Art. 1: Self-determination</li> <li>- Art. 26: Equality and non-discrimination</li> </ul> <p><u>State Responsibilities:</u></p> <ul style="list-style-type: none"> <li>- Art. 2: States to respect and ensure the rights of the individuals are recognized on a non-discriminatory basis</li> </ul>  |
| International Covenant on Economic, Social and Cultural Rights 1966 (ICESCR) <sup>189</sup>    | <p><u>Human Rights:</u></p> <ul style="list-style-type: none"> <li>- Art. 1: Self-determination</li> <li>- Art. 6: To work</li> <li>- Art. 11: To an adequate standard of living</li> <li>- Art. 13: Education</li> </ul> <p><u>State Responsibilities:</u></p> <ul style="list-style-type: none"> <li>- Art. 2: States to take steps, individually and through international assistance and cooperation, to the maximum of its available resources, to achieve progressively the full realization of the rights recognized in the Covenant by all appropriate means</li> </ul>   |
| Convention on the Elimination of All Forms of Discrimination against Women 1979 <sup>190</sup> | <p><u>Human Rights:</u></p> <ul style="list-style-type: none"> <li>- Art. 2: Elimination and prohibition of all discrimination against women</li> <li>- Arts. 7-9: Provisions on women's political rights</li> <li>- Arts. 10-14: Social and economic rights</li> <li>- Arts. 15-16: Equality before the law and family rights</li> <li>- Art. 14: Rights of rural women</li> </ul> <p><u>State Responsibilities:</u></p> <ul style="list-style-type: none"> <li>- Art. 3: States to take all appropriate measures to respect, recognize, and protect the rights of women and their enjoyment of human rights based on equality with men</li> </ul> |
| Convention on the Rights of the Child 1989 <sup>191</sup>                                      | <p><u>Human Rights:</u></p> <ul style="list-style-type: none"> <li>- Art. 3: Best interest of the child shall be a primary consideration in all actions concerning children</li> <li>- Art. 2: Prohibition of discrimination</li> <li>- Art. 6: Right to life and development of the child to the maximum extent</li> <li>- Art. 12: Right to participate</li> </ul> <p><u>State Responsibilities:</u></p> <ul style="list-style-type: none"> <li>- Arts. 2-9: States to take all appropriate measures to respect, recognize, and protect the rights of children</li> </ul>   |

<sup>188</sup> Dec. 16, 1966, S. Exec. Rep. 102-23, 999 U.N.T.S. 171.

<sup>189</sup> G.A. Res. 2200A (XXI) (Dec. 16, 1966).

<sup>190</sup> G.A. Res. 34/180 (Dec. 18, 1979).

<sup>191</sup> G.A. Res. 44/25 (Nov. 20, 1989).

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| International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families 1990 <sup>192</sup> | <p><u>Human Rights:</u></p> <ul style="list-style-type: none"> <li>- Art. 8: Freedom to leave any State.</li> <li>- Art. 9: Right to life</li> <li>- Art. 12: Freedom of thought, conscience, and religion</li> <li>- Art. 16: Liberty and security to the person.</li> <li>- Art. 17: Treatment of the inherent dignity of a human person and for their cultural identity</li> <li>- Art. 18: Migrants to have equal rights with nationals</li> </ul> <p><u>State Responsibilities:</u></p> <ul style="list-style-type: none"> <li>- Art. 7: States to take all appropriate measures to respect, recognize, ensure, and protect the rights of migrants</li> </ul> |
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Paris Agreement has also acknowledged the impact of climate change on human rights, which said party States should address the right to health, indigenous peoples' rights, local communities, persons with disabilities, the right to development, and intergenerational equity when combating climate change.<sup>193</sup>

Health rights are regarded as a fundamental human right that is indispensable for exercising other human rights.<sup>194</sup> The general principle is that every human being is entitled to the enjoyment of the highest attainable standard of health conducive to living a life of dignity.<sup>195</sup> It entails that people should have access to safe and potable water, adequate sanitation, adequate supply of safe food, nutrition, housing, healthy occupational and environmental conditions.<sup>196</sup> Here, States have the general obligations to realize the rights progressively, to protect, respect, and fulfill these rights.<sup>197</sup> Also, Principle 1 of the Stockholm Declaration highlighted that man bears a solemn responsibility to protect and improve the environment for present and future generations. The principle of intergeneration equity was restated in Principle 3 of the Rio Declaration and climate change treaties, such as Article 3 of the UNFCCC and international cases and authorities.<sup>198</sup>

b. How does climate change impact human rights?

Climate change will negatively impact the rights to life, freedom, physical security, and safety. These threats come from extreme weather events, such as heatwaves, drought, floods, more frequent formations of tropical cyclones, coastal flooding, wildfire, excessive rainfall, etc.<sup>199</sup> According to the reports published by the Institute for Economics and Peace ("IEP") in 2019,<sup>200</sup>

<sup>192</sup> G. A. Res. 45/158 (Dec. 18, 1990).

<sup>193</sup> Preamble.

<sup>194</sup> U.N. C.E.S.C.R., General Comment No. 14, E/C. 12/ 2000/4 (Aug. 11, 2000).

<sup>195</sup> *Id.*

<sup>196</sup> O.H.C.H.R., *OHCHR and the right to health*, <https://www.ohchr.org/EN/Issues/ESCR/Pages/Health.aspx>.

<sup>197</sup> O.H.C.H.R. & W.H.O., *The Right to Health*, FACT SHEET NO.31, at 22-28 (2008).

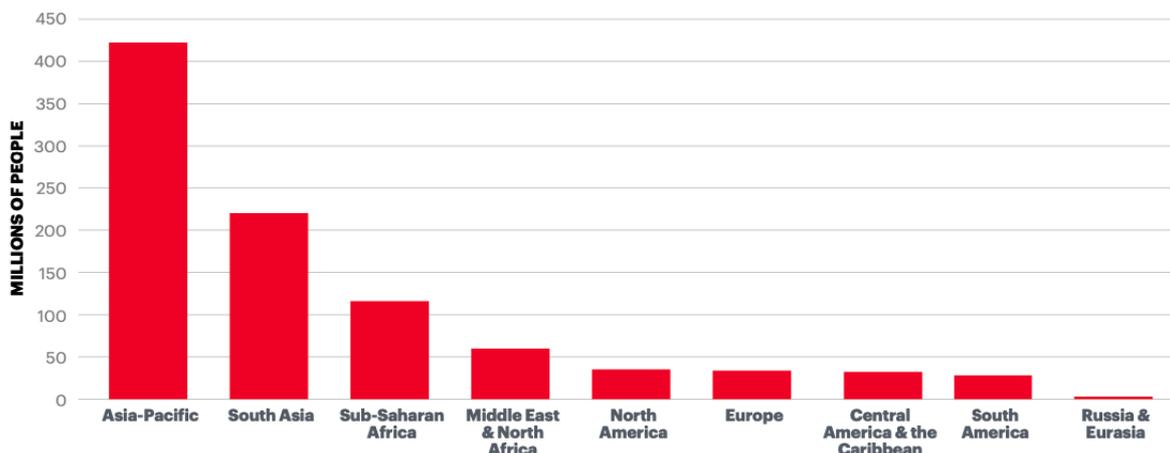
<sup>198</sup> See, e.g., *Gabcikovo-Nagymaros*, at 78; *Nuclear Weapons Advisory Opinion*, ¶129; *Pulp Mills* (Separate Opinion, Cançado J.), at 164.

<sup>199</sup> J. Handmer et al., *Changes in impacts of climate extremes: human systems and ecosystems*. MANAGING THE RISKS OF EXTREME EVENTS AND DISASTERS TO ADVANCE CLIMATE CHANGE ADAPTATION, A special report of working groups I and II of the I.P.C.C., at 231-290 (C.B. Field et al. ed. Cambridge Univ. Press, 2012).

<sup>200</sup> Institute for Economics & Peace. GLOBAL INDEX 2019: MEASURING PEACE IN A COMPLEX WORLD (2019).

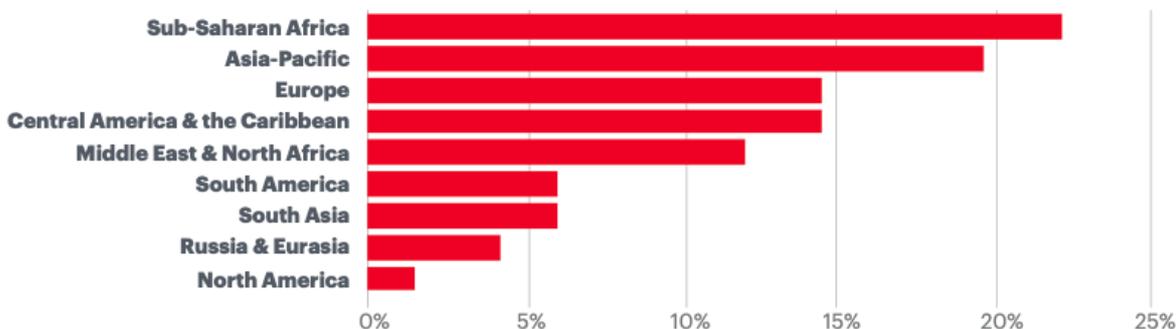
over 78% of the world’s total population were living in the high to very high-risk climate zones in Asia-Pacific, South Asia, and Sub-Saharan Africa (Figures 4 and 5). In 2013, a deadly super typhoon Haiyan hit the Philippines and caused a record high casualty. Almost 6,300 were killed, and millions were left homeless after the event. In early 2020, bushfires were outburst in Australia. The fire lasted for more than two months, killing 33 lives, and around 3,000 homes were destroyed.<sup>201</sup> The World Wild Fund named the bushfires the most

Figure 4. Total population in high-risk climate zones, 2016



Source: United States Agency for International Development (“USAID”); IEP calculations

Figure 5. Regional distribution of countries with a very high-risk of a single climate change hazard, 2018



Source: INFORM Global Risk Index 2019; IEP calculations

catastrophic bushfire season ever experienced in the country’s history.<sup>202</sup> Scientists claimed in a peer-reviewed journal that the bushfires could be attributed to anthropogenic climate change.<sup>203</sup> The World Health Organization predicted that climate change would cause approximately 250,000 deaths per year between 2030 and 2050 due to malaria, malnutrition, diarrhea, and heat stress.<sup>204</sup> As illustrated in Figure 6, climatic events could affect our rights to physical security and

<sup>201</sup> WWF-Australia, *Emergency response to the Australian bushfires*, Australian Bushfires, <https://www.wwf.org.au/what-we-do/bushfires#gs.qgs2lu>.

<sup>202</sup> *Id.*

<sup>203</sup> G. J. V. Oldenborgh et al., *Attribution of the Australian bushfire risk to anthropogenic climate change*, NAT. HAZARD AND EARTH SYS (Mar. 11, 2020).

<sup>204</sup> W.H.O., *Climate change and health* (Feb. 1, 2018), <https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health>.

housing, as extreme weather events will destroy homes. Drought and erosion would also gradually lead to the displacement of populations and increase the number of climate change refugees and environmental hazards migrants.<sup>205</sup>

Furthermore, climate change would affect the right to enjoy the highest attainable physical and mental health standards. For instance, there would be more significant risks of injury, food, vector, and water-borne diseases and deaths due to heatwaves, fires, floods, drought, shifting of disease vectors, and increased risk of malnutrition because of crop

Figure 6. Aftermath of Super Typhoon Haiyan in the Philippines, 2013.



Source: GlobalGiving

failures.<sup>206</sup> Victims of climate change hazards, especially children, may suffer from post-traumatic stress disorders and other mental health issues.<sup>207</sup> Women are more prone to the impacts of climatic disasters, weather events, and diseases disproportionately, owing to the cultural norms and inequitable distribution of roles, resources, and power in some societies.<sup>208</sup> Climate change thus exacerbates gender inequality and discrimination against women.

Moreover, climate change would affect our right to safe water and sanitation. In 2019, it was estimated that there were 2.2 billion people did not have safely managed water services, 4.2 billion did not have safely managed sanitation services, and 3 billion people lacked the necessary

<sup>205</sup> U.N.H.C.R., *Climate change and disaster displacement*, <https://www.unhcr.org/climate-change-and-disasters.html>.

<sup>206</sup> See K. R. A. Woodward et al., *Human health: impacts, adaptation, and co-benefits*, CLIMATE CHANGE 2014: IMPACTS, ADAPTATION, AND VULNERABILITY, Part A: Global and Sectoral Aspects, Contribution of Working Group II to the 5<sup>th</sup> Assessment Report of the I.P.C.C. (C. B. Field et al. ed., Cambridge Univ. Press, 2014).

<sup>207</sup> *Id.* at 732.

<sup>208</sup> Balgis Osman-Elasha, *Women...In the Shadow of Climate Change*, U.N. Chronicle, U.N., <https://www.un.org/en/chronicle/article/womenin-shadow-climate-change>.

handwashing facilities.<sup>209</sup> The melting ice, reduced precipitation, high temperatures, and rising sea levels may affect the quality and quantity of water resources and pose more challenges to the human rights to water and sanitation. Extreme weather events such as floods and cyclones will contaminate the water source and spread water-borne diseases.<sup>210</sup>

Last but not least, climate change would affect the right to self-determination. The rising sea level has posed existential threats to SIDSs, owing to the inundation of low-lying areas, coral bleaching, and saline intrusion into terrestrial systems.<sup>211</sup> When the territories are no longer habitable to humans, and the SIDSs will lose their territories and hence people's right to self-determination. The destruction to government buildings, courts, legislative buildings, and facilities may hinder elections and government operations, undermining people's political rights to participate in an election and vote and their freedoms of assembly and expression.

### c. Conflicting rights

There are some challenges and criticisms to the invocation of the state duty on a human rights ground. Traditionally, the human rights conventions require party States to protect and ensure people's rights within their jurisdictions. According to Article 2(7) of the United Nations Charter, States may not interfere in other countries' internal affairs. Under the principle of *pacta sunt servanda* ("agreements must be kept"), it seems States also have no obligation to perform more than what was provided in the agreements.<sup>212</sup> Further, not all states are parties to human rights treaties. It entails that some rights, such as political rights, may not be enforced against a non-party State. It is also trite that not all human rights are absolute. Still, some rights and freedom, such as the freedom of expression and association, can be limited by law so long as it satisfies the proportionality requirement.<sup>213</sup> International law also does not demand States' immediate actions to implement some rights, such as health, water, and sanitation rights. Instead, States may implement policies to realize those rights progressively. Finally, GHGs would be generated and emitted in the processes of economic and social development. Article 1 of the Declaration on the Right to Development provided that the right to development is an inalienable human right.<sup>214</sup> Developing countries need developments in particular so that their societies can advance and realize human rights in as many aspects as possible.

As rebuttals, it is submitted that customary international law and treaty law will provide answers to the challenges listed above. Firstly, the United Nations Charter allows States to intervene in another state's domestic affairs for matters that concern international peace and

<sup>209</sup> News Release, W.H.O., 1 in 3 people globally do not have access to safe drinking water – UNICEF, WHO (Jun. 18, 2019), <https://www.who.int/news/item/18-06-2019-1-in-3-people-globally-do-not-have-access-to-safe-drinking-water-unicef-who>.

<sup>210</sup> U.N., *Water, Water and Climate Change*, <https://www.unwater.org/water-facts/climate-change/>.

<sup>211</sup> U.N. Office of High Representative for the Least Developed Countries, *Landlocked Developing Countries and Small Island Developing States*, SMALL ISLAND DEVELOPING STATES IN NUMBERS, Climate Change ed. (2015).

<sup>212</sup> VCLT art. 26.

<sup>213</sup> See e.g., *Lawless v. Ireland* (No. 1), Eur. Ct. H. R. 332/57 (1959); ICCPR art. 19: Freedom of expression can be limited if prescribed by law and if necessary for the purpose of national security, public health or morals; African Charter arts. 11, 14, 27(2): Freedoms of assembly, right to property and rights and freedom of individuals can be limited.

<sup>214</sup> G.A. Res. 41/128 (Dec. 3, 1986).

security.<sup>215</sup> Indeed, whether or not a State implements climate change policies is a matter of domestic affairs. Climate change is an issue that affects the well-being of the citizens residing in the wrongdoing State. Still, it is the world's common interest to preserve and protect human rights from climate change injuries. The purpose of invoking state responsibilities is thus broader than domestic affairs. Instead, it is a common concern of all humanity, concerning the interest of many States, groups, and parties. Also, fundamental rights, such as the right to life, are not derogable.<sup>216</sup> As noted by the ICJ in the *Nuclear Weapons Advisory Opinion*, the existence of many humanitarian law rules is so fundamental to the respect of humans that all States must observe them whether or not they have ratified the conventions that contain human rights.<sup>217</sup> Here, the protection for human rights has constituted an intransgressible principle of customary international law.<sup>218</sup> Some fundamental rights, such as the right to health, allow the progressive performance of States. However, such progression must satisfy the scrutiny of the due diligence and "best efforts" requirements.

Some states have signed the human rights treaties and pledged to protect their citizens' derogable rights, and they owe a duty to their citizens to provide, protect, and ensure those rights. As such, the party States may invoke Article 48(1)(a) of ARSIWA and demand the wrongdoing States cooperate, regulate domestic GHG emissions, and preserve the GHG sinks located inside their jurisdictions. For injured States like the Philippines and Australia, they may invoke the *erga omnes obligations* under Articles 42 and 48 of ARSIWA. Lastly, the right to development in the present context should be read as one which harmonizes and reconciles with the principle of sustainable development. As said by the Court in *Gabčíkovo-Nagymaros*, the "need to reconcile economic development with protection of the environment is aptly expressed in the concept of sustainable development."<sup>219</sup> Also, Paragraph one of the Brundtland Report said, "[s]ustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."<sup>220</sup> Accordingly, the States' development plans and models must consider future generations' needs, including protecting, guaranteeing, and fulfilling their human rights.

The appropriate remedies for a breach of the preventive duty in the human rights context may include cessation and guarantee of non-repetition. Where damages could be established, damages in monetary compensation, restitution, and an apology from the wrongdoing States may be granted.

## 2. Rights of Nature

Besides human rights, it is argued that the protection for the rights of nature would justify the invocation of state responsibility to mitigate climate change. According to the Cambridge English Dictionary, "nature" was defined as "all the animals, plants, rocks, etc., in the world and

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<sup>215</sup> U.N. Charter art. 2(7) & Ch. VII.

<sup>216</sup> ICCPR art. 6; U.N.H.R.C., General Comment No. 6, (Apr. 30, 2000).

<sup>217</sup> At ¶79.

<sup>218</sup> *Id.*

<sup>219</sup> At ¶140; Also see Rio Declaration arts. 4-5, 7-9, 12, 20-22, 24, 37 for the practice and implementation of the sustainable development principle.

<sup>220</sup> World Commission on Environment and Development, *OUR COMMON FUTURE* (Oxford Univ. Press, 1987) [hereinafter Brundtland Report].

all the features, forces, and processes that happen or exist independently of people, such as the weather, the sea, mountains, the production of young animals or plants, and growth.” By definition, the universe and stars are also part of nature. In this article, we are interested in the part of nature on planet Earth. In the broadest sense, nature consists of the environment, the living, and non-living things. Here, the term “environment” is defined as “the totality of all external conditions affecting the life, development, and survival of an organism.”<sup>221</sup>

Nature has always been treated as the subject of human management and control. It is a resource to be exploited. In this sense, nature has never gained equal footing or status with humans. Indeed, managing the environment and internationally shared resources is essential for preserving and sustaining the human race. The Preamble of World Charter for Nature 1982 (WCN) recognized that “mankind is a part of nature and life depends on the uninterrupted functioning of natural systems which ensure the supply of energy and nutrients.”<sup>222</sup> It said, “(human) civilization is rooted in nature.” Principle 1 stated that “nature shall be respected and its essential processes shall not be impaired.” Here, the main reason for protecting nature is to satisfy man’s needs (Principle 6).<sup>223</sup>

If humans are the subject of interests that merit international law protection, we have already covered the topic in discussing human rights. The point is that the basis and reasons for invoking the state responsibility to mitigate climate change should be broader than human. The rights of nature also merit protection. In 2009, the General Assembly adopted the International Mother Earth Day and Harmony with Nature resolutions, where the international community described the Earth as “mother.”<sup>224</sup> In the resolutions, the States recognized that human beings and all livings are interdependent. These resolutions are important as they have redefined the relationship between humans and nature. Humans recognized the Earth is our home and origin. The word “harmony” seems to suggest that human does not live above nature.

a. “Should Tree Have Standing?”

Christopher D. Stone is one of the leading scholars who discussed the jurisprudence for the rights of nature.<sup>225</sup> It is not something new that humans have given abstract entities, such as corporations and the States, their rights. By granting rights to them, the law recognizes the worth and dignity in their rights, but not merely to serve as a means to benefit humans.<sup>226</sup> If nature has legal rights, it means the court must take an injury to it into account in determining the granting of legal relief. Nature does not speak for itself. However, it does not mean that the rights and affairs of nature cannot be managed. Like other abstract entities, such as a State or a company, or even human infants, nature could have a guardian or conservator who looks after nature’s

<sup>221</sup> U.N., *Glossary of Environment Statistics*, STUDIES IN METHODS (Ser. F) No. 67, at para 7.31 (1997).

<sup>222</sup> G.A. Res. 37/7 (Oct. 28, 1982); Also see the Convention on International Trade in Endangered Species of Wild Fauna and Flora, 993 U.N.T.S. 243 (Jul. 1, 1975); CBD, *supra* note 136.

<sup>223</sup> Full text of Principle 6: “In the decision-making process it shall be recognized that man’s needs can be met only by ensuring the proper functioning of natural systems and by respecting the principles set forth in the present Charter.”

<sup>224</sup> G.A. Res. 63/278 (Apr. 2, 2009); G.A. Res. 64/196 (Feb. 12, 2009).

<sup>225</sup> Christopher D. Stone, *Should Trees Have Standing—Toward Legal Rights for Natural Objects*, S. CAL. L. REV. 450 (1972) [hereinafter Stone, *Should Trees Have Standing*].

<sup>226</sup> Stone, *Should Trees Have Standing* at 458.

interests and rights.<sup>227</sup> As such, any violation of nature's right could be resolved using the property law rights conception to measure the damages in monetary terms.<sup>228</sup> Stone suggested that the funds collected could be put into a trust fund, which may be used to preserve and conserve nature.<sup>229</sup> In practice, the rights of nature may be assigned to tangible living and non-living things in nature, such as vertebrae, plants, forest, river, or some parts of the global commons or the world's major environmental conservation and ecological zones, such as the Amazon Rain Forest, one of the world's most significant GHG sinks.

One benefit of granting rights to nature is that the law can prevent it from being "sold out" in a negotiation.<sup>230</sup> According to the territorial sovereignty principle, the land and the natural resources in some jurisdictions were assigned as the State government's properties. For instance, Article 7 of the Basic Law, Hong Kong's mini-constitution, stated that "the land and natural resources within the Hong Kong Special Administrative Region shall be State property." A downside in using property law in environmental management is that the owners have full ownership and control over their properties. At the state level, the State may just "sell-out" nature by allowing it to be exploited. It has been the case in some Latin American, Asian, and African countries, where the governments have agreed to colossal land sales to foreign investors, leading to large-scale deforestations.<sup>231</sup>

However, it is not without a problem to recognize the rights of nature. For instance, there is a question about whether nature should bear any liabilities and responsibilities for its "conduct" if nature is recognized as a legal person. The atmosphere is part of nature. Any change in the atmosphere may thus be considered a change of nature. If extreme weather events attributing to climate change have caused life and property damages, should nature bear the liability in causing the loss? Another issue is that the right of nature may not be absolute. Our economic activities and life depend on nature. Humans need to take resources and raw materials from nature to sustain their societies. In this sense, the right of nature cannot be protected from human intervention.

As rebuttals, it is submitted that nature should not be treated as a legal person with full rights and liabilities. Not all entities recognized by law have full rights and liabilities. In law, children and mentally incapacitated persons may be exempted from the liabilities of their conduct, as they are considered not with sound minds or do not fully understand the consequences of their conduct. These people still enjoy some human rights, such as the rights to life and health, as much as other people. Accordingly, nature may enjoy some rights, such as the freedom from harm without bearing full liabilities as a legal person. Like a company, nature may not "commit a wrongful act" without an acting agent. Therefore, any alleged wrongful "conduct" committed by nature still needs to go through the agency test before allocating the loss and damages. Also, nature should be protected from irreversible and irreparable injuries. One

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<sup>227</sup> *Id.* at 464.

<sup>228</sup> *Id.* at 476.

<sup>229</sup> *Id.* at 480.

<sup>230</sup> *Id.*

<sup>231</sup> Earth Institute, Columbia Univ., *Huge Land Buys Are Driving Tropical Forest Destruction*, STATE OF THE PLANET (Jun. 22, 2020), <https://blogs.ei.columbia.edu/2020/06/22/foreigners-are-buying-tropical-forests-then-destruction/>.

feature of nature is that it can heal itself over time through some self-repairing processes.<sup>232</sup> Therefore, one or two takes from humans may not pose permanent and irreparable damages to nature. In this sense, the rights of nature are derogable. However, if anthropogenic climate change has negatively impacted nature to a point where the environment is unlikely to revert to its medieval qualities and original state (at least in a human lifetime), such as the extinction of certain species, nature's rights may be violated.

There are currently no international case authorities directly recognizing the rights of nature. However, it does not mean that it is the end of the story. The trend of granting rights to sea and river implies that a new customary international law may arise. As mentioned, the rise of customary law requires the proof of state practice (*usus*) and *opinio juris sive necessitate*. *Opinio juris* would be satisfied that States have declared the need to respect and protect nature in the Harmony with Nature and the International Mother Earth Day resolutions and other international instruments like the WCN. It is also argued that *usus* could prima facie be established. Below is a table that summarizes the worldwide national practices to protect nature's rights by law (Table 7).

Table 7. List of Domestic State Practices in Recognising and Protecting the Rights of Nature by Law<sup>233</sup>

| Countries | Local Laws  |
|-----------|---|
| Argentina | <p><u>National Law/ Federal Act</u></p> <ul style="list-style-type: none"> <li>- 2020: Proposal for a national regulation on Rights of Nature.</li> </ul> <p><u>Local Regulations</u></p> <ul style="list-style-type: none"> <li>- 2020: On 23 October, Representative Valeria López Delzar (Partido CREO-Santa Fe) introduced an ordinance on the Rights of Nature to the deliberative council of the municipality of Santa Fe.</li> <li>- 2020: On 26 November, the Municipality of the city of Rosario adopted a decision declaring its support to recognize the Paraná River and Wetlands as a subject of law.</li> <li>- 2020: On 23 November, Representative Carlos Del Frade (Partido Frente Social y Popular - Santa Fe Province) introduced a Bill on the Rights of Nature to the Santa Fe Chamber of Deputies.</li> <li>- 2018: The municipal council of the city of Santa Fé approved a local ordinance recognizing its Art.4 the rights of Nature.</li> </ul> <p><u>Court Decisions</u></p> <ul style="list-style-type: none"> <li>- 2016: Judge María Alejandra Mauricio, agreeing with the activists, called the chimp by the name of Cecilia a “non-human person” and said the primate “is a subject of law.”</li> </ul> <p><u>Other Official Documents</u></p> <ul style="list-style-type: none"> <li>- 2020: The First International Virtual Congress on Animal Law to recognize non-human animal rights took place from 25 to 29 May 2020.</li> </ul> |
| Australia | <p><u>National Law/ Federal Act</u></p> <ul style="list-style-type: none"> <li>- 2017: The Victorian Parliament passed on 21 September the Yarra River Protection (Wilip-gin Birrarung murrn) Act 2017. The Act became law on 1 December 2017 and legally recognizes the Yarra as an indivisible living entity</li> </ul>   |

<sup>232</sup> U.N.E.P., *Nature can still heal itself, if we give it the urgent attention it needs*, CLIMATE CHANGE (Aug. 8, 2019), <https://www.unenvironment.org/news-and-stories/story/nature-can-still-heal-itself-if-we-give-it-urgent-attention-it-needs>.

<sup>233</sup> U.N. Harmony with Nature, RIGHTS OF NATURE LAW, POLICY AND EDUCATION, <http://www.harmonywithnatureun.org/rightsOfNature/>.

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|            | <p>deserving protection. The Law also recognizes the intrinsic connection of the traditional owners to the Yarra River. Further, it acknowledges them as the custodians of the land and waterway, which they call Birrarung.</p> <p><u>Local Regulations</u></p> <ul style="list-style-type: none"> <li>- 2019: On 24 November 2019, Diane Evers, a Member of the Western Australia Parliament, introduced the Rights of Nature and Future Generations Bill 2019. This is the first time that legislation aiming to recognize nature's rights has been introduced in an Australian Parliament.</li> </ul>  |
| Bangladesh | <p><u>Court Decisions</u></p> <ul style="list-style-type: none"> <li>- 2019: The High Court of Bangladesh recognized the river Turag as a living entity with legal rights and held that the same would apply to all Bangladesh rivers.</li> </ul>  |
| Belize     | <p><u>National Law/ Federal Act</u></p> <ul style="list-style-type: none"> <li>- 2017: Adopting an indefinite moratorium signed into law on 29 December 2017 to preserve the World Heritage site reef builds on Nature's earlier recognition as a subject of rights.</li> </ul>  |
| Bolivia    | <p><u>National Law/ Federal Act</u></p> <ul style="list-style-type: none"> <li>- 2012 Law 300</li> <li>- 2010 Law 071</li> </ul> <p><u>Other Official Documents</u></p> <ul style="list-style-type: none"> <li>- 2010 The first Peoples' World Conference on Climate Change and the Rights of Mother Earth.</li> </ul>   |
| Brazil     | <p><u>National Law/ Federal Act</u></p> <ul style="list-style-type: none"> <li>- 2015: Sao Paulo - Projeto de Emenda a Lei Organica 04-00005/2015 do Veredador Eduardo Tuma (PSDB).</li> <li>- 2015: Justification - PLO 0005/2015</li> </ul> <p><u>Local Regulations</u></p> <ul style="list-style-type: none"> <li>- 2019: The Municipal Chamber of Florianopolis voted to adopt Organic Law 133 of the Municipality of Florianopolis granting rights of Nature. The Organic Law entered into force on 20 November 2019.</li> <li>- 2018: Amendment to the Organic Law of the Municipality of Paudalho in the State of Pernambuco adopts Rights of Nature.</li> <li>- 2018: The San Severino Ramos Natural Water Spring was granted rights of Nature as a result of the Amendment to the Organic Law of the Municipality of Paudalho, which recognized the RofN.</li> <li>- 2017: Amendment to the Organic Law of the municipality of Bonito in the State of Pernambuco adopts rights of Nature (page 6).</li> </ul> <p><u>Court Decisions</u></p> <ul style="list-style-type: none"> <li>- 2019: The Superior Court of Justice (STJ), adopting an ecological perspective based on the principle of dignity of the human person, issued a historic ruling recognizing non-human animals as a subject of rights. The ruling further addresses the need to change the legal anthropocentric paradigm and replace it with biocentric thinking, which advances the interconnectedness and close relationship between human beings and Nature and recognizes Nature's intrinsic value.</li> </ul> |
| Canada     | <p><u>Local Regulations</u></p> <ul style="list-style-type: none"> <li>- 2020: The ?Esdilagh First Nations people (translated as Where the Land meets the Water) of the T?ilhqot'in Nation have documented their rights and responsibilities as traditional caretakers ?Esdilagh (Sturgeon River, also known as the Fraser River). Endorsed by the T?ilhqot'in Council of Chiefs, on 28 May 2020, the ?Esdilagh Sturgeon River Law states that people, animals, fish, plants, nen ("lands"), and the tu ("waters") have rights.</li> </ul>   |
| Colombia   | <p><u>Local Regulations</u></p> <ul style="list-style-type: none"> <li>- 2019: The department of Nariño became the first in the country to recognize Nature as a subject of rights by signing Decree 348.</li> </ul>   |

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|  | <p><u>Court Decisions</u></p> <ul style="list-style-type: none"> <li>- 2020: On 17 June 2020, the Supreme Court of Justice of Colombia declared the Isla de Salamanca National Park (Salamanca Island Road Park) as a subject of rights to protect it from rampant deforestation.</li> <li>- 2020: The governance framework for the Atrato River Basin was mandated by the Constitutional Court in 2016 to create a multi-stakeholder commission of stewards made up of scientific agencies, universities, NGOs, national and international environmental organizations, public and private institutions, and civil society. The ruling ordered that this stewards commission be supported and supervised by a board of experts integrated by several supervisory state agencies, NGOs, academic centers, the petitioners, and the UN Human Rights Office of the High Commissioner. The Court also ordered that several national, regional, and municipal government agencies undertake social and environmental programs for toxicological and epidemiological research, decontamination, definitive neutralization of illegal mining and logging along the Atrato River Basin, and for ethnic-development plans to recover the communities' food security and protect other human rights that had been violated, including the prevention of further displacement.</li> <li>- 2020: On 28 August, the Superior Tribunal of Ibagué declared the Natural National Park of Los Nevados subject of rights for its protection, recovery, and conservation.</li> <li>- 2020: On 15 September, the Superior Tribunal of Ibagué declared the Natural National Park of Complejo de Páramos Las Hermosas subject of rights to life and a healthy environment.</li> <li>- 2020: On 27 November 2020, the First Civil Court of Sogamoso declared Lake Tota, the largest lake in the country, a subject of rights and ordered the protection of the fundamental rights to life, health, water, and a healthy environment of the inhabitants of the surrounding municipalities.</li> <li>- 2019: The Colombian Municipal Civil Court of La Plata - Huila recognized the La Plata River as a subject of rights ordering protective measures for the well-being of both the people and the La Plata River.</li> <li>- 2019: The Administrative Court of Tolima ordered to stop the mining exploitation of the rivers Coello, Combeima, and Cocora, along with their basins, recognizing them as a subject of rights for protection, conservation, maintenance, and restoration.</li> <li>- 2019: The Superior Court of Medellin recognized the River Cauca, its basin, and affluents as a subject of Rights.</li> <li>- 2019: The First Criminal Court of Neiva's District recognized the Magdalena River as a subject of rights. The ruling states that the Magdalena River, its basin, and its tributaries are an entity subject to rights for protection, conservation, maintenance, and restoration by the State.</li> <li>- 2019: The Administrative Court of Quindío has recognized the Quindío River as a subject of rights to protection, conservation, maintenance, and restoration.</li> <li>- 2019: In July 2019, the Juzgado Tercero de Ejecución de Penas y Medidas de Seguridad in Cali, Colombia, recognized Río Pance as a subject of rights. The Court decision came in response to a tutela citing violations of the rights due to contamination.</li> <li>- 2019: In September 2019, the Juzgado Cuarto de Ejecución de Penas y Medidas de Seguridad de Pereira, Regional Court recognized Río Otún as a subject of rights.</li> <li>- 2018: The Supreme Court of Justice of Colombia issued a historic ruling by granting rights to the Colombian Amazon Region along the same lines as those given to the Atrato River.</li> <li>- 2018: The Administrative Court of Boyacá, Colombia, declared the Páramo de Pisba (Pisba Highlands) as a subject of rights.</li> </ul> |
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|            | <ul style="list-style-type: none"> <li>- 2018: The First Criminal Court of the Circuit of Cartagena ordered the State of Colombia to protect and preserve bees' lives as pollinating agents.</li> <li>- 2017: The Supreme Court of Justice of Colombia established that animals are subjects with rights and granted rights to the Andean bear, also called the Spectacled Bear or Oso de Anteojos (<i>Tremarctus Omatus</i>).</li> <li>- 2016: The Constitutional Court of Colombia issued a decision on illegal mining, which recognizes the Atrato River as the subject of a right. Full text of the decision and specific reasoning on this subject on pages 135 - 140.</li> </ul>  |
| Costa Rica | <u>Local Regulations</u> <ul style="list-style-type: none"> <li>- 2016 Executive decree declaring 22 April the National Day of Mother Earth.</li> </ul>   |
| Ecuador    | <u>Constitution</u> <ul style="list-style-type: none"> <li>- Constitution 2008</li> </ul> <u>Court Decisions</u> <ul style="list-style-type: none"> <li>- 2020: On 24 September, the Constitutional Court ordered the protection of the Rights of Nature to the Alpayacu River to control contamination by poultry, pig, and agricultural companies.</li> <li>- 2019: The shareholders request a precautionary constitutional measure to protect the rights of nature that are seriously threatened by the inevitable collapse of dams planned to contain more than 390 million cubic meters of tailings in a mining project, whose construction characteristics they constitute an act that threatens seriously and imminently to violate the rights of nature.</li> <li>- 2019: A judge in Quevedo, Ecuador has accepted a protection order in favor of the peasants of the province of Los Ríos; the judge granted the protection order and pointed out that GM crops violate the rights to life, health, work, a healthy environment and the rights of nature.</li> <li>- 2019: The court recognized violations to the collective rights of free and informed prior consultation, the rights of water, and the rights of nature and the environment in the community of Sinangoe.</li> <li>- 2019: The Constitutional Court of Imbabura ruled in favor of the Los Cedros Protected Forest, recognizing that the mining would violate nature's Rights.</li> <li>- 2019: The Supreme Court of Ecuador rendered a verdict on a wildlife crime case, ordering the confiscation of a vessel caught transporting 6226 sharks. Written arguments submitted on Rights of Nature were referred to in the verdict.</li> <li>- 2018: Presentation of protection action in favor of nature's rights was accepted, and the violation of the rights of nature was declared. Remedial measures were taken to resolve the damages caused by the provincial government of Loja, and she was ordered to apologize publicly.</li> <li>- 2016: Precautionary measures are requested for the protection of the rights of nature because in the place where the San Francisco Recreation Center, in the city of Alamor, the upper part of the hill existing in the said hill was being destroyed Recreational center with heavy machinery of the Municipal Government of Puyango, destroying the environment, trees and rocks, dumping land that leaves this work in a hollow where water streams that are used downstream for human consumption flow.</li> <li>- 2015: Upheld constitutional Rights of Nature in illegal mining case.</li> <li>- 2015: Sentencia sobre Muerte de Jaguar.</li> <li>- 2015: Sentencia Tribunal Garantías Penales - Tiburones.</li> <li>- 2015: Areas Naturales Protegidas y Derechos de la Naturaleza.</li> <li>- 2015: Actividad Minera y Derechos de la Naturaleza.</li> <li>- 2013: The judge ordered the Ministry of Environment to exercise oversight actions in the civil action and adjudication process of the Hacienda La Clementina to guarantee the Rights of Nature and the Protective Forest in reference.</li> </ul> |

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|             | <ul style="list-style-type: none"> <li>- 2012: Galápagos. This Court sentenced on the rights of nature issued by the Constitutional Court analyzes the constitutional aspect of a law that prioritizes conservation over the constitutional right to internal migration.</li> <li>- 2012: Charles Darwin Derechos de la Naturaleza: Medidas Cautelares.</li> <li>- 2011: Loja - Vilcabamba River. First Rights of Nature court victory.</li> <li>- 2011: Minería en Esmeraldas: Medidas Cautelares.</li> </ul> <p><u>Other Official Documents:</u></p> <ul style="list-style-type: none"> <li>- 2019: Respuesta a Movimiento Animalista Nacional (MAN).</li> <li>- 2019: The new Constitutional Court announced it would address the juridical content of Nature's rights.</li> <li>- 2015: Defensoría del Pueblo: Concha vs Petro Ecuador.</li> <li>- 2014: Código Penal (crimes against Nature, see 98-103).</li> <li>- 2013: The decisive role of Amicus Curiae in Ecuadorian Rights of Nature Cases.</li> <li>- 2013: Defensoría del Pueblo: Frente de Mujeres.</li> <li>- 2012 Defensoría del Pueblo: Bananeros en Los Ríos.</li> </ul> |
| El Salvador | <p><u>Constitution</u></p> <ul style="list-style-type: none"> <li>- 2020: The non-governmental organizations Ecología Rebelde, Sí por los Derechos de la Naturaleza y la Asociación Comunitaria Unida por el Agua y la Agricultura, will present a proposal to the Legislative Assembly to amend the Constitution of El Salvador. The Constitutional Amendment would include recognition of the Rights of Nature through an article stating: “Nature is also recognized as a subject of rights since it generates, reproduces and realizes life. It further recognizes the rights to full respect of her existence, the maintenance and regeneration of her life cycles, structure, functions, and evolutionary processes.”</li> </ul> <p><u>National Law / Federal Act</u></p> <ul style="list-style-type: none"> <li>- 2020: The NGO Sí por los Derechos de la Naturaleza is working on a proposal to recognize the rights of the Lempa River, El Salvador's main river, which shares its basin with Guatemala and Honduras.</li> </ul>  |
| France      | <p><u>Constitution</u></p> <ul style="list-style-type: none"> <li>- 2018: A constitutional reform to further amend the Constitution (1958) and the Charter of the Environment (2004) has been initiated on 10 July. Over 20 amendment’s addressing, among others, the rights of the living, animal welfare, the global commons, the crime of ecocide, and the principle of non-environmental regression have been tabled by MPs, signaling a trend for a more Earth-centered constitutional process.</li> </ul> <p><u>Local Regulations:</u></p> <ul style="list-style-type: none"> <li>- 2016: The Loyalty Islands, part of the French territory of NewCaledonia, inhabited by 90% of the Kanak people, adopted a first phase of its Environmental Code on 6 April, through which some aspects of Nature may be recognized in their rights (See articles 110-1 &amp; 110-3, at 7).</li> </ul>   |
| Guatemala   | <p><u>Court Decisions</u></p> <ul style="list-style-type: none"> <li>- 2019: The Constitutional Court of Guatemala, on 7 November 2019, rendered a non-anthropocentric verdict recognizing the spiritual and cultural relationship between Indigenous People and the Water element, acknowledging Water as a living entity.</li> </ul>   |
| India       | <p><u>Constitution</u></p> <ul style="list-style-type: none"> <li>- 2020: Punjab and Haryana High Court of Chandigarh, on 2 March, declared Sukhna Lake a legal person for its survival, preservation, and conservation and declared all Chandigarh citizens to save the lake from extinction.</li> </ul> <p><u>Court Decisions</u></p> <ul style="list-style-type: none"> <li>- 2019: The Punjab and Haryana High Court has accorded the status of “legal person or entity” to animals in Haryana, granting them the “corresponding rights, duties, and liabilities of a living person.”.</li> </ul>  |

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|             | <ul style="list-style-type: none"> <li>- 2018: In July, the Uttarakhand High Court accorded a legal person's status or entity to animals in the northern state.</li> <li>- 2017: In April, the Himalayan Gangotri and Yamunotri glaciers were granted the status of living entities, including waterfalls, meadows, lakes, and forests.</li> <li>- 2017: In March, the Ganga and Yamuna Rivers, two of India's most sacred rivers, were granted human status.</li> <li>- 2012: T.N. Godavarman Thirumulpad Vs. Union of India &amp; Others.</li> <li>- T.N Godavarman Thirumulpad Vs. Union of India &amp; Others is known for the opinions of Judges K.S. Radhakrishnan and Chandramauli Kr. Prasad asserted that Environmental Justice could be achieved only if we drift away from anthropocentric principles (para. 14).</li> </ul> <p><u>Other Official Documents</u></p> <ul style="list-style-type: none"> <li>- 2017: The State Assembly of Madhya Pradesh declared the Narmada River a living entity and the state's lifeline, announcing an indefinite ban on sand mining in the Narmada River.</li> <li>- 2017: The proposal National River Ganga Act would provide the Ganga with legal personhood.</li> </ul>  |
| Mexico      | <p><u>Constitution</u></p> <ul style="list-style-type: none"> <li>- 2020: On 18 November 2020, congressman Freddie Delfin Avendaño (Morena Political Party) submitted to the Honorable Congress of the State of Oaxaca (Mexico) the proposal to reform paragraph 39 and to add new paragraphs 40, 41, and 42 of article 12 of the Political Constitution of the Free and Sovereign State of Oaxaca to include the Rights of Nature. This proposal will be analyzed by the Permanent Commission of Constitutional Studies and it is expected that it will be approved in early 2021.</li> <li>- 2019: State Constitution (Federal State). On 10 June 2019, the Congress of the State of Colima approved an amendment to the state constitution recognizing the Rights of Nature.</li> <li>- 2017: Constitution of Mexico City. On 31 January 2017, the new Constitution of Mexico City adopted Nature's rights in Article 18, paragraphs 2 and 3, page 40 of the Constitution. On 5 February 2017, the new Constitution was promulgated and entered into force on 17 September 2018.</li> <li>- 2014: State Constitution (Federal State). The Constitution of Guerrero, amended on 30 June 2014, recognized in its Article 2 the Rights of Nature.</li> </ul> <p><u>National Law/ Federal Act</u></p> <ul style="list-style-type: none"> <li>- 2013 Environmental Law for the Protection of the Earth. In the Federal District of Mexico, the Environmental Law for the Protection of the Earth entered into force on 17 October 2013.</li> </ul> <p><u>Local Regulations</u></p> <ul style="list-style-type: none"> <li>- 2019: The Local Commission of Human Rights of the State of Guerrero accepts to receive complaints about violations of the Rights of Nature in cases submitted by citizens regarding animal abuses in the Zoo of Zochilpan.</li> </ul> <p><u>Court Decisions</u></p> <ul style="list-style-type: none"> <li>- 2018: A ban on cockfighting as part of the Animal Protection Bill of Veracruz State was challenged by the local cockfighting industry, claiming it violates the right to culture and property, among other human rights. The Supreme Court ruling stated that “no practice that involves the mistreatment and unnecessary suffering of animals can be considered a cultural expression protected by the [federal] constitution.” The Supreme Court's decision established a precedent for the recognition of the rights of non-human animals.</li> </ul> <p><u>Other Official Documents</u></p> <ul style="list-style-type: none"> <li>- 2016: First International Forum on the Rights of Mother Earth.</li> </ul> |
| Netherlands | <p><u>Local Regulations</u></p> <ul style="list-style-type: none"> <li>- 2019 The Frisian municipality of Dongeradeel, which in 2018 adopted a motion on special rights for the Wadden Sea 2019, merged with three other</li> </ul>   |

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|               | <p>Frisian municipalities, Nordeast-Fryslan. On 11 July 2019, the city council of Nordeast-Frylan passed a motion that proposes granting special rights to the Wadden Sea. Furthermore, the city council urged to appoint an independent governance authority for the ecosystem. The existing management cannot be considered independent as it is part of the local government.</p>   |
| New Zealand   | <p><u>National Law/ Federal Act</u></p> <ul style="list-style-type: none"> <li>- 2017: In March, the Whanganui River was granted legal status as a person.</li> <li>- 2014: In July, Te Urewera, formerly a national park, was removed from the national park system and was legally recognized as: “a legal entity” with “all the rights, powers, duties, and liabilities of a legal person” (s 11 (1)). Te Urewera is managed by the new Te Urewera Board, responsible “to act on behalf of, and in the name of, Te Urewera” (s 17(a)).</li> </ul> <p><u>Other Official Documents</u></p> <ul style="list-style-type: none"> <li>- 2018: The Government of New Zealand and Ngāti Rangī Iwi signed a Deed of Settlement provides, among others, for a redress framework for the Whangaehu River, Te Waiū-o-Te-Ika. Te Waiū-o-Te-Ika is recognized as a living and indivisible whole, from Te Wai-a-Moe (the Crater Lake) to the sea, comprising physical and metaphysical elements giving life and healing to its surroundings and communities. The Deed of Settlement also recognizes a set of four intrinsic values (Ngā Toka o Te Waiū-o-Te-Ika) that represent the essence of Te Waiū-o-Te-Ika.</li> <li>- 2017: In December, Mount Taranaki obtained the same legal rights as a person.</li> <li>- 2012:Treaty Settlement between the Whanganui Iwi and the Crown Government.</li> </ul> |
| Nigeria       | <p><u>Local Regulations</u></p> <ul style="list-style-type: none"> <li>- On 30 September 2019, the Federal Ministry of Environment ruled in favor of the River Ethiopie Trust Foundation's petition against Presco’s oil palm/rubber activities on the River Ethiopie. The Ministry ordered Presco Plc. to abide by the terms and conditions of the petition and thereby all the environmental rights to protect and sustain the river’s integrity.</li> </ul>   |
| South Africa  | <p><u>Court Decisions</u></p> <ul style="list-style-type: none"> <li>- 2018: The Supreme Court of Appeal issued a judgment on 1 June, supporting the Dwesa Cwebe indigenous community's customary law rights to harvest mussels on the East coast of South Africa following their ancient system.</li> </ul>   |
| Spain         | <p><u>Local Regulations</u></p> <ul style="list-style-type: none"> <li>- 2020: On 23 July, the Municipality of Los Alcázares, in Murcia, adopted a legislative initiative to grant Mar Menor rights, the largest saltwater lagoon in Europe, and its basin to recognize this ecosystem as a subject of rights.</li> </ul>  |
| Uganda        | <p>National Law / Federal Act</p> <ul style="list-style-type: none"> <li>- 2019: In February, the Parliament recognized Nature’s fundamental rights to be, evolve, and regenerate in the National Environment Act 2019.</li> </ul> <p><u>Local Regulations</u></p> <ul style="list-style-type: none"> <li>- 2019: The Buliisa District Local Government Council signed a Resolution on 22 November 2019 in recognition of the Customary Laws of the Bagungu Custodian Clans, noting “the concern of the Bagungu clan leaders for Butoka (Mother Earth) and for the future generations of all species of the Earth, and their ancestral responsibility to protect the well-being of their land, and of the planet.”</li> </ul>  |
| United States | <p><u>Constitution</u></p> <ul style="list-style-type: none"> <li>- 2014: State Constitution (Federal State). A State Constitutional Amendment was proposed to the Constitution of the State of Colorado in January 2014, which specifically included the right of municipalities to pass laws establishing the Rights of Nature.</li> </ul> <p><u>Local Regulations</u></p>   |

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|  | <ul style="list-style-type: none"> <li>- 2020: Nez Perce Tribe (ID)   Menominee Tribe (WI)</li> <li>- 2019: Yurok Tribe (CA)   Toledo (OH)   Santa Monica (CA)</li> <li>- 2018: White Earth Nation and 1855 Treaty Authority (MN)   Santa Monica (CA)</li> <li>- 2016: Waterville (OH)</li> <li>- 2014: Grant Township (PA)   Mendocino County (CA)   San Francisco (CA)</li> <li>- 2013: Mora County (NM)   Santa Monica (CA)</li> <li>- 2012: Broadview Heights (OH)   Yellow Springs (OH)</li> <li>- 2011: Baldwin (PA)   Forest Hills (PA)   Mountain Lake Park (MD)   State College (PA)   Wales (NY)   W. Homestead (PA)</li> <li>- 2010: Licking (PA)   Packer (PA)   Pittsburgh (PA)</li> <li>- 2009: Newfield (NJ)</li> <li>- 2008: Halifax (VA)   Mahanoy (PA)   Nottingham (NH)</li> <li>- 2006: Tamaqua (PA)</li> </ul> <p><u>Court Decisions</u></p> <ul style="list-style-type: none"> <li>- 1972: USA: <i>Sierra Club v. Morton</i>, 405 U.S. 727. <i>Sierra Club v. Morton</i> is known for the dissenting opinion by Judge William O. Douglas. He asserted that natural resources ought to have the standing to sue for their protection (at 7-9).</li> </ul> <p><u>Other Official Documents</u></p> <ul style="list-style-type: none"> <li>- 2018: Crestone (CO)</li> </ul> |
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b. How does climate change impact the rights of nature?

The WWF, quoting the IPCC, said a 1.5°C average rise would put 20-30% of species at risk of extinction.<sup>234</sup> If the Earth's temperature increases by more than 2°C, most ecosystems will struggle.<sup>235</sup> Wild animals, such as Orangutans, African Elephants, Adélie Penguins, Atlantic Puffins, Tigers, Snow Leopards, Asian Rhinos are at risk of extinction due to climate change. The extinction of some species entails that there will be less biodiversity on Earth, which may eventually upset the food chain and ecosystems. The warming oceans will also acidify seawater and led to coral bleaching and die-offs.<sup>236</sup> The warming temperatures will affect plants and animals' seasonal life cycles, such as mating, blooming, or migration.<sup>237</sup> Animals will lose their natural habitats as climate change has changed the conditions of the environments in which they live.

Apart from impacting the living things, climate change would injure the environment. According to NASA, climate change has already caused observable effects on the environment, including the shrinking of glaciers, such as the Himalayan glaciers, ice on rivers and lakes, and accelerated sea-level.<sup>238</sup> If these trends continue, there may no longer be any summer sea ice coverage in the Arctic in the next few decades. A similar effect may happen to the ice in Antarctica. The Antarctic ice sheet is an enormous single mass of ice on Earth.<sup>239</sup> It constitutes around 90% of all fresh water on the Earth's surface. It also plays a vital role in influencing the world's climate,

<sup>234</sup> *Supra* note 143.

<sup>235</sup> *Id.*

<sup>236</sup> Renee Cho, *Climate Change Poses Challenges to Plants and Animals*, CLIMATE, Earth Institute, Columbia University (Feb. 3, 2015), <https://blogs.ei.columbia.edu/2015/02/03/climate-change-poses-challenges-to-plants-and-animals/>.

<sup>237</sup> *Id.*

<sup>238</sup> N.A.S.A., *The Effects of Climate Change*, <https://climate.nasa.gov/effects/>.

<sup>239</sup> N.A.S.A., *Arctic and Antarctic Sea Ice: How Are They Different*, Blog, NASA's Global Climate Change Website (Apr. 10, 2019, 13:30 PDT), <https://climate.nasa.gov/blog/2861/arctic-and-antarctic-sea-ice-how-are-they-different/>.

reflecting solar energy, and regulating global temperature. The melting of ice in the Antarctic will lead to rising sea levels. It will also lose its function to regulate the Earth's climate.

Furthermore, the oceans have been acting as the carbon sinks of the Earth. They absorb a large amount of CO<sub>2</sub>, one of the main components of the atmospheric GHGs.<sup>210</sup> When the water temperature increases, more CO<sub>2</sub> may dissolve into the water, leading to higher water acidity and coral bleaching. Here, the coral reefs are projected to decline by 70-90% when the global temperature increases by 1.5°C.<sup>211</sup> If warming increases by 2°C, all coral reefs will be lost.<sup>212</sup> Apart from the ocean, forests are important carbon sinks. They are home to millions of plant and animal species. If global warming continues, it is expected that the sub-Arctic boreal forests will be negatively affected.<sup>213</sup> When forests are destroyed, the dying trees will emit their stores of CO<sub>2</sub> and exacerbate the problem of global warming.<sup>214</sup>

More expert evidence is required to prove the factual links between climate change and harms to nature. The author of this article feels confident that this would be possible given the blooming scientific research developments establishing such connections. In any case, the de minimis and precautionary principles can be invoked. If we genuinely respect nature in its worth and dignity, we should not ignore how anthropogenic climate change can impact nature. As said, nature cannot speak for itself and communicate with humans about the harms it suffered. Until the guardians, manager, or custodians of nature are appointed, the States can invoke the state duty under Articles 48 and 42. In any case, a State can always take up the role of the guardian of nature. If the breach of such state duty can be established, monetary compensation, restitution, cessation, and a guarantee of non-repetition would be the appropriate remedies for nature. For restitution, States have the joint-and-several liability on a CBDR basis to restore the nature closest to its original form and quality. For instance, it can be done by re-growing coral reefs and forests.<sup>215</sup> Damages in monetary compensation may also be granted and put into the trust for preserving and conserving nature.

## V. CONCLUSION

Climate change is one of the Earth's most urgent and vital issues. The climate change regime founded by climate change treaties has codified the state responsibilities to mitigate climate change. On top of that, this article argued that the state duty exists as a due diligent preventive obligation under customary international law. Where climate change injuries can be proven, the no-harm principle can be invoked. The precautionary principle, de minimis

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<sup>210</sup> Rebecca Fowler, *Ocean Uptake of CO<sub>2</sub> Could Drop as We Cut Carbon Emissions*, CLIMATE, EARTH SCIENCES, PRESS RELEASE, Earth Institute, Columbia University (Jun. 3, 2020), <https://blogs.ci.columbia.edu/2020/06/03/ocean-uptake-co2-climate-mitigation/>.

<sup>211</sup> *Supra* note 143.

<sup>212</sup> *Id.*

<sup>213</sup> Yale School of the Environment, *Climate Change & Boreal Forests*, CLIMATE CHANGE, <https://globalforestatlas.yale.edu/climate-change/climate-change-boreal-forests>.

<sup>214</sup> Union of Concerned Scientists, *Tropical Deforestation and Global Warming* (Dec. 9, 2012), <https://www.ucsusa.org/resources/tropical-deforestation-and-global-warming>.

<sup>215</sup> See, e.g., Gabriel Popkin, *Plan trees or let forests regrow? New studies probe two ways to fight climate change*, SCIENCE (Sep. 23, 2020, 12:25 PM), <https://www.sciencemag.org/news/2020/09/plant-trees-or-let-forests-regrow-new-studies-probe-two-ways-fight-climate-change>; Amber Dance, *These corals could survive climate change - and help save the world's reefs*, NATURE (Nov. 27, 2019), <https://www.nature.com/articles/d41586-019-03629-7>.

principle, and the joint-and-several duty principle will help the invoking State or parties to overcome the evidential burden in proving the factual links in climate change. The state duty to mitigate climate change can be approached as a state-to-state duty or an *erga omnes* obligation. In the latter category, the jurisprudence in invoking the state responsibility is completed on the human rights and rights of nature grounds. If such state responsibility can be established, States would have the obligations to cease inaction and allowing entities in their jurisdictions to emit GHGs without cost. Instead, States would be obliged to formulate and implement national climate change policies to reduce GHG emissions and preserve GHG sinks. Remedies, such as restitution, compensation, and satisfaction, may be granted to the injured States or parties.