

# Climate Justice: Equitable and Inclusive Governance of Climate Action

---

Policy and governance recommendations for advancing climate justice

Patrick Huntjens, Ting Zhang

## Abstract

Climate change and its effects are inextricably linked to complex questions of justice. These—collectively termed *climate justice*—have in turn been subject to an increasingly broad debate in both the scientific and the policy community. Despite this increase in attention, the ways in which the effects of global warming will impact justice at various levels are still far from clear. In this paper, we examine state-of-the-art research and thinking on the implications of climate change for justice, to clarify the linkages and potential intersections between them, and to identify the key resulting governance challenges facing the international system. This paper explores potential pathways for reform to make multi-level climate governance more fit for purpose, and to better anticipate and address the predicted justice implications of climate change. Specifically, we pose two research questions:

1. What are the key policy and (multilevel) governance challenges at the intersection of climate change and justice?
2. How can current policies and governance arrangements (at different levels) be improved to better meet these challenges?

Of course, climate justice mean different things to different groups and individuals and the potential implications of climate change for justice are varied and complex. Climate justice is not simply a quick reference to acting ethically, but rather a source of reasoning for what is considered legitimate, and thus relates to more normative questions of equity and fairness.

In the final section, we discuss the following key policy implications and governance reform recommendations for advancing climate justice:

- looking beyond the state and towards a cosmopolitan perspective on climate justice
- urging the fulfilment of legal obligations to combat climate change
- recognizing climate change as a form of ecocide and a crime against peace
- advancing a human-rights based approach to climate justice
- strengthening protection for those displaced by the effects of climate change
- developing institutional design propositions for inclusive and equitable climate governance at multiple levels
- strengthening multi-level and multi-stakeholder climate governance

Keywords

Climate change, climate justice, climate governance, institutional design propositions



---

# Climate Justice: Equitable and Inclusive Governance of Climate Action

Policy and governance recommendations for advancing climate justice

Patrick Huntjens and Ting Zhang

## About the Authors

Dr. Patrick Huntjens is Head of Water Diplomacy within the Conflict Prevention Program at The Hague Institute for Global Justice. He is responsible for several international water and climate projects in the Middle East, South East Asia, Eastern Europe and Africa. Dr. Huntjens has 18 years of experience working in more than 40 countries on issues related to water governance and diplomacy, climate security and justice, mediation and negotiation, institutional strengthening, governance of climate change adaptation and disaster risk reduction. His work focuses on strengthening the conceptual foundations and practical value of adaptive approaches to environmental governance, with more than fifty publications.

Ting Zhang is a researcher in the Conflict Prevention Program of The Hague Institute for Global Justice. She is actively involved in projects related to climate change adaptation and water diplomacy. Her expertise focuses on the governance of climate change adaptation and natural resources, small island states, community-level engagement, and conflict-sensitive approaches to dealing with environmental challenges.

## Acknowledgments

The authors would like to thank Dr. David Michel (Stimson Center) for having taken the time to provide constructive written feedback on earlier drafts of this paper. The authors also thank Dr. Lyal S. Sunga and Ms. Anca Iordache (both of The Hague Institute for Global Justice) for drafting section 2.4 on “Outlining a Rights-Based Approach to Climate Change”. The authors would also like to thank the participants of the policy roundtable titled “The Road to Lima: Climate Governance, Adaptation and Technological Responses,” hosted by The Hague Institute for Global Justice on November 6, 2014, and participants of the informal side event “A Call for a ‘New’ Climate Governance Agenda” at the UNFCCC Conference of Parties in Lima on December 9, 2014, hosted by The Hague Institute for

Global Justice and the Stimson Center. Both events were part of a series of stakeholder dialogues being held in conjunction with the work of the Commission on Global Security, Justice & Governance.

## About The Hague Institute for Global Justice

The Hague Institute for Global Justice is an independent, nonpartisan institution established to undertake interdisciplinary policy-relevant research, develop practitioner tools, and convene experts and policymakers to facilitate knowledge sharing. Through this work, the Institute aims to contribute to and further strengthen the global framework for preventing and resolving conflict and promoting international peace.

---

**The Hague Institute  
for Global Justice**  
Sophialaan 10  
2514 JR The Hague  
The Netherlands

t +31 (0)70 30 28 130  
e [info@TheHagueInstitute.org](mailto:info@TheHagueInstitute.org)  
w [TheHagueInstitute.org](http://TheHagueInstitute.org)  
t @HagueInstitute

---

## About The Hague Institute Working Paper Series

The Hague Institute working papers series provides an outlet for authors to make original, rigorous, and policy-relevant research available publically. Each Hague Institute working paper is peer-reviewed by at least two experts, one internal to and one external to The Hague Institute.

## Disclaimer

The views expressed in this paper are solely those of the authors and do not necessarily reflect the views of The Hague Institute for Global Justice, any other individual, or any other organization.

# 1. Introduction

## 1.1 Background

The 2011 UNDP Human Development Report and annual IPCC reports provide overwhelming evidence that we are reaching an upper limit to our capacity to emit greenhouse gases (GHGs) without dire consequences.<sup>1</sup> Stabilizing greenhouse gas concentrations in the atmosphere at a level that prevents catastrophic climate change will require an estimated 40 to 70 percent reduction in anthropogenic long-lived GHGs by 2050 from 2010 levels to keep CO<sub>2</sub> from exceeding 450 ppm by 2100, as well as global zero emissions from 2100 onward.<sup>2</sup>

Climate change has often been called the single biggest challenge for humanity over the coming centuries. Given the scale of the problem, its impacts on human life on earth, and the level of coordinated action required to solve it, this statement seems more than adequate. After the Intergovernmental Panel for Climate Change (IPCC) published its first assessment report in 1990, it was accused of dramatizing the anthropogenic (man-made) causes as well as the potential effects of global warming; now we know that the researchers had in fact underestimated both causes and effects. Although uncertainty and unpredictability remains, the scientific basis of climate change is now well established. It suggests that change is happening more quickly than previously estimated and can no longer be framed as a distant threat.<sup>3</sup> The past three decades have likely been the warmest thirty years of the last fourteen hundred.<sup>4</sup> The atmospheric concentration of greenhouse gases has increased to a level unprecedented in the last eight hundred thousand years, and their “mean rates of increase” over the past century “are, with very high confidence, unprecedented in the last 22,000 years.”<sup>5</sup> Changing precipitation patterns, melting ice caps, rising sea levels, acidification of oceans, and heightened climatic variability are only some of the predictable consequences of a climate destabilized by warming atmosphere and oceans.

The magnitude and acceleration of adverse climate change in the last twenty years testified to the inadequacy of international efforts to address, let alone halt or reverse, these trends. GHG emissions continue to rise and a binding successor agreement to the 1997 Kyoto Protocol, itself only marginally implemented, appears to many observers to remain out of reach. The ever-growing body of research on the science of climate change and its likely economic, political, and social implications gives rise to a heightened sense of urgency for countervailing action. During the Paris Conference of the Parties (COP) in December 2015, this evidence has partially been translated into the basis for a legally-binding agreement that strives for a goal of two degrees global warming (with an aspirational target of 1.5 degrees).

Such action entails some combination of *mitigation* (reducing GHG emissions) and *adaptation* (coping with impacts already unavoidable). The EU’s recently agreed-on climate change legislation sets concrete measures to reduce EU emissions to 20 percent below 1990

---

<sup>1</sup> UNDP, *Sustainability and Equity: A Better Future for All* (New York: Palgrave Macmillan, 2011); IPCC, *Climate Change 2014: Impacts, Adaptation, and Vulnerability*, Working Group II, 5th Assessment Report (Cambridge: Cambridge University Press, 2014).

<sup>2</sup> IPCC, *Climate Change 2014*.

<sup>3</sup> See, for example, Nicholas Stern, “The Structure of Economic Modeling of the Potential Impacts of Climate Change,” *Journal of Economic Literature* 51, no. 3 (2013): 838–59; IPCC, *Climate Change 2014*.

<sup>4</sup> <https://www2.ucar.edu/climate/faq/how-much-has-global-temperature-risen-last-100-years>

<sup>5</sup> IPCC, *Climate Change 2013: The Physical Science Basis* (Cambridge: Cambridge University Press, 2013), 11.

levels by 2020 and may be increased to 30 percent as part of an international agreement in which other developed countries agree to comparable reductions. Because long-lasting GHGs such as carbon dioxide (CO<sub>2</sub>) remain in the atmosphere for centuries, capping and reducing such emissions will help keep climate change from worsening. However, alleviating its effects in less time will require reductions in emissions of GHGs such as methane and hydrofluorocarbons, whose atmospheric concentrations fall more rapidly and—pound for pound—are thirty times more potent heat-trapping substances than CO<sub>2</sub>.<sup>6</sup>

## 1.2 Key Research Questions and Definitions

Climate change and its effects are inextricably linked to complex questions of justice. These—collectively termed climate justice—have in turn been subject to an increasingly broad debate in both the scientific and the policy community. Despite this increase in attention, the ways in which the effects of global warming will impact justice at various levels are still far from clear. Climate justice remains at the edge of official documents with aims to address climate change. An “all-inclusive” preamble of the recently adopted Paris Agreement has incorporated diverse concerns such as rights of vulnerable groups, gender equality, common but differentiated responsibilities and so on, but only symbolically. The legally binding text does not explicitly address these issues, not even incurring liability or compensation for loss and damage related to climate change. In this paper, we examine state-of-the-art research and thinking on the implications of climate change for justice, to clarify the linkages and potential intersections between them, and to identify the resulting key governance challenges facing the international system. This paper explores potential pathways for reform to make multi-level climate governance more fit for purpose and to better anticipate and address the predicted justice implications of climate change. Specifically, we pose two research questions:

- What are the key policy and (multilevel) governance challenges at the intersection of climate change and justice?
- How can current policies and governance arrangements (at different levels) be improved to better meet these challenges?

Of course, climate justice means different things to different groups and individuals and the potential implications of climate change for justice are varied and complex. Climate justice is not simply a quick reference to acting ethically, but rather a source of reasoning for what is considered legitimate,<sup>7</sup> and thus relates to more normative questions of equity and fairness.

Climate justice is generally used as a term for viewing global warming as an ethical issue and considering how its causes and effects relate to concepts of justice, particularly environmental justice and social justice. This can mean examining issues such as equality, human rights, collective rights and historical responsibility in relation to climate change. Recognizing and addressing the fact that those least responsible for climate change experience its greatest impacts is seen by many as being central to climate justice.<sup>8</sup> The term is also used with reference to legal systems, where justice is achieved through application and development of law in the area of climate change.<sup>9</sup>

---

<sup>6</sup> Global Commission on the Economy and Climate, *Better Growth Better Climate* (Washington, DC: World Resources Institute, September 2014), 152.

<sup>7</sup> Forsyth 2014, 232

<sup>8</sup> See Kofi A. Annan quote, 1 October 2009 – <http://blogit.realwire.com/?ReleaseID=13791>; [globalissues.org](http://www.globalissues.org), climate justice and equity: <http://www.globalissues.org/article/231/climate-justice-and-equity>

<sup>9</sup> For example, see Climate Justice Programme: <http://www.climatelaw.org/>

Roots in Environmental Justice: “*Climate Justice is a vision to dissolve and alleviate the unequal burdens created by climate change. As a form of environmental justice, climate justice is the fair treatment of all people and freedom from discrimination with the creation of policies and projects that address climate change and the systems that create climate change and perpetuate discrimination.*”<sup>10</sup>

Climate Justice as Evaluative Model: “*Climate Justice is a struggle over land, forest, water, culture, food sovereignty, collective and social rights; it is a struggle that considers “justice” at the basis of any solution; a struggle that supports climate solutions found in the practices and knowledge of those already fighting to protect and defend their livelihoods and the environment; a struggle that insists on a genuine systematic transformation in order to tackle the real causes of climate change... Climate Justice addresses four key themes: root causes, rights, reparations and participatory democracy.*”<sup>11</sup>

Drawing from above sources we take the following working definition of climate justice for this paper:

Climate justice is a human-centered approach linking human rights and development. It protects the rights of the most vulnerable and aims at sharing the burdens and benefits of climate change and its resolution equitably and fairly.<sup>12</sup> It is about ensuring, both collectively and individually, that we have the ability to prepare for, respond to and recover from the impacts of climate change and the policies to mitigate or adapt to them by taking account of existing and projected vulnerabilities, resources and capabilities”.<sup>13</sup>

---

<sup>10</sup> Climate Institute, 'Climate Justice Movements': [http://www.climate.org/climatelab/Climate\\_Justice\\_Movements](http://www.climate.org/climatelab/Climate_Justice_Movements)

<sup>11</sup> Hoodwinked in the Hothouse: <http://www.actforclimatejustice.org/tools-resources/other-sources/rising-tide-publications/false-solutions-guide/>

<sup>12</sup> Mary Robinson Foundation Climate Justice, Principles of Climate Justice, p. 1, available at: <http://www.mrfcj.org/pdf/Principles-of-Climate-Justice.pdf>

<sup>13</sup> Preston, Nick Banks, Katy Hargreaves, Aleksandra Kazmierczak, Karen Lucas, Ruth Mayne, Clare Downing and Roger Street, Climate Change and Social Justice, An evidence Review, <http://www.jrf.org.uk/sites/files/jrf/climate-change-social-justice-full.pdf>

## 2. Climate Change and Justice: Multi-Dimensional and Cross-Cutting Challenges

While the debate on climate change and security is almost exclusively concerned with the adverse effects of climate change, the concept of ‘climate justice’ encompasses both climate change causes and effects. Climate justice is a politically charged concept that has been at the root of much of the deadlock that has characterized current climate negotiations. However, at its core it refers to the fundamental asymmetry that those who have contributed least to our warming atmosphere are the ones who will be affected most heavily by the impacts of climate change.<sup>14</sup> The populations living in the world’s least developed countries (LDCs) are significantly more vulnerable to the consequences of a changing climate, while their ‘carbon footprint’ is negligible when compared to the highly developed countries. However, if we open up the traditionally closed box of “the state,” we see that the real divide is not only between developed and developing states, but also between affluent and poor people, wherever they are located. One way of recognizing this is to focus less on states and more on people (section 2.1).

Justice concerns cut across all levels of the climate change debates. They are at the core of the debates about mitigation (i.e. who cuts?), adaptation (i.e. who pays?) and climate governance (i.e. who decides?). Justice considerations need to be an integral part of our efforts to address and adapt to climate change, at the global as well as the very micro-level. Henry Shue (2014) has called this the “unavoidability of justice”. Reder (2013) has argued that “justice serves as the ethical standard through which conflicts of interest in the context of climate change have to be judged”. Equity and fairness are important sub-concepts of climate justice. They relate to both the processes through which decisions about how to address climate change are made (i.e. *procedural* justice), and the ways in which the costs of mitigation and adaptation are distributed (i.e. *distributive* justice). The UNFCCC also refers to the importance of ensuring that global efforts to mitigate climate change are equitable and fair. To address developing countries’ concerns about the asymmetry in historical contributions to global warming, the concept of ‘common but differentiated responsibilities’ (CBDR) was coined and codified in the UNFCCC. Nonetheless, perceptions of justice, or rather injustice, continue to dominate and mostly block global climate negotiations. The most fundamental reason for this continued deadlock is that there is no universally agreed upon definition of justice in general, and climate justice in particular. Climate justice is an opaque concept that is loaded with very different meanings, depending on one’s point of view.

Similar to the debate about climate security, the question *who* suffers most from climate injustice yields different answers, depending on who one thinks the main referent object of climate justice should be. A state-centric approach to climate justice places the historical responsibility for the majority of all GHG emissions, and thus the responsibility for mitigating action, on the world’s ‘old’ industrialized countries while simultaneously emphasizing developing countries’ right to lift their populations out of poverty, including through energy-intensive industrialization. An inter-generational perspective on climate justice stretches the time horizon by emphasizing current generations’ responsibility to preserve the planet and its resources for future generations who, unlike present generations in both developed and developing countries, have no lobby at all to influence global climate negotiations. A social justice perspective emphasizes the responsibility of affluent people, again in both developed and developing countries, towards those who are most vulnerable and least capable of

---

<sup>14</sup> Cameron et al. 2013.

adapting to the adverse impacts of climate change: the world's poor and marginalized. The world's oil producing states have claimed that a transition to renewable energies and a 'green' world economy is unfair to their citizens whose livelihoods depend on oil revenues and thus have demanded they be compensated for their losses. This, too, is part of the climate justice discourse. It should be obvious that climate justice is an inherently contested concept. In the words of Reder (2013):

“Justice can be used to validate completely opposing strategies, sometimes to simply defend vested interests or rights. Therefore the challenge for an ethical debate is to relate justice not only to single aspects but to view it from an overall, comprehensive perspective. (...) The concept of justice should be universal, so that it is comprehensible and generally acceptable to all parties, regardless of whether they live in industrial or developing countries.”

## 2.1 Looking Beyond the State: A Cosmopolitan Perspective on Climate Justice

A cosmopolitan perspective, as written by Beck, suggests an “...erosion of distinct boundaries dividing markets, states, civilizations, cultures, and not least of all the lifeworlds of different peoples”.<sup>15</sup> In the realm of climate change, scholars like Paul Harris et al. (2010, 2013)<sup>16 17</sup> and others have suggested that efforts to operationalize climate justice will require approaches that move beyond the traditional state-centric approach to international relations. Focusing on distributive justice and in particular the “polluter pays” principle, Caney also argues for an individualistic approach to distributing responsibility related to climate change, which views the source of justice and rights to be the interests of individuals.<sup>18</sup> Other scholars, like Stevenson and Dryzek (2012),<sup>19</sup> also suggest alternative governance arrangements by questioning the democratic legitimacy of multi-lateral negotiations. They argue that existing proposals for reforming multilateral negotiations promise greater effectiveness, but fall short on legitimacy. Stevenson and Dryzek (2012) propose that the dilemma of securing both effectiveness and legitimacy can be resolved in a deliberative democratic model that combines mini-lateralism (instead of multi-lateralism) with discursive representation.

“By taking into account not only international but also intra-national equity considerations, it becomes possible to move beyond the simplistic developed–developing country dichotomy and to reassess justice among states in the context of the practical realities of climate change.”

*Harris et al., 2013:301*

<sup>15</sup> Beck, U. (2007) ‘A new cosmopolitanism is in the air’ [www.signandsight.com/features/1603.html](http://www.signandsight.com/features/1603.html) (accessed 6 April 2016)

<sup>16</sup> Harris, P.G., Symons, J. (2010) Justice in adaptation to climate change: cosmopolitan implications for implications for international institutions. *Environmental Politics*, 19:4, 617-636

<sup>17</sup> Harris, P.G., Chow, A., Karlsson, R. (2013) China and climate justice: moving beyond statism. *International Environmental Agreements* (2013) 13:291–305

<sup>18</sup> Caney, S., 2005. Cosmopolitan justice, responsibility and global climate change. *Leiden Journal of International Law* 18, 747–775.

<sup>19</sup> Stevenson, H., Dryzek, J.S. (2012) The legitimacy of multilateral climate governance: a deliberative democratic approach. *Critical Policy Studies* 6:1, 1-18

As much as everyone recognizes the need to find a burden-sharing formula that can generally be accepted as “fair” by most governments (Ringius et al. 2002),<sup>20</sup> the framing of the climate change problematique in terms of states does not seem to offer much hope for achieving this (Harris et al., 2013:297). Progress has often been measured by whether the official multilateral negotiation process itself will continue or fall victim to narrowly defined national interests (Harris et al., 2013:297).

The limitations of a state-centric approach is perhaps best illustrated by the example of China’s standpoint in international climate negotiations. Generally speaking, China, next to other parties, has adopted a statist posture on climate change, in particular emphasizing its sovereign right to economic development and the Chinese state’s low historical emissions (Harris et al., 2013). This view was reaffirmed in 2010 by Yu Qingtai, China’s Special Representative for Climate Change Negotiations: “China cannot commit to doing more than its historical responsibility requires and, during negotiations, it must put its own national interests first” (Chinadialogue 2010).<sup>21</sup>

As much as theories of climate justice recognize the fundamental fairness in this principled stance taken by China, there is a growing misfit between historical responsibility and current emissions: the world cannot address climate change effectively without much more action from China. However unjustly, the rich countries of the world see this misfit and pass the ball back to China. (Harris et al., 2013:303). Practically speaking, it is the growing emissions of China (and other large developing countries) that will greatly determine whether there is any chance of achieving climate stability. The status quo is untenable as a survival strategy for the twenty-first century (Harris et al., 2013:301).

In line with the cosmopolitan perspective, private affluence is thought to be an underlying cause of environmental destruction (Hurth and Wells 2007) and a source of financing for public investments in technologies that are necessary to tackle climate change effectively. In short, to get robust mitigation efforts off the ground it is essential that the high-carbon lifestyles of the global middle class are regulated and taxed, as well as those of the most affluent people, is a necessity (Harris et al., 2013:301). Regulating/taxing high carbon lifestyles must be part of robust mitigation efforts, unless there are very significant and rapid technological breakthroughs.

Harris in particular has argued that the global costs of adaptation to climate change should be shared not between states but redistributed between the world’s wealthy (i.e. those capable of contributing) and the poor (i.e. those most heavily affected but least able to contribute). According to this logic, while the state has an important role as ‘intermediary’, funds would essentially flow from the capable to the vulnerable across boundaries.

Using the example of China again, according to Harris et al (2013), acting from a people-centered perspective would allow China to maintain its resistance to binding emissions targets for the state as a whole (i.e. no mandatory emissions limitations or cuts for sovereign China), yet at the same time make real progress toward climate change mitigation by taking steps that would limit and soon reduce GHG pollution from the country’s affluent classes. (Harris et al., 2013:302). But what evidence is there that attempting to pursue the cosmopolitan perspective, and reducing the state to an intermediary in a global financial redistribution scheme

---

<sup>20</sup> Ringius, L., Torvanger, A., & Underdal, A. (2002). Burden sharing and fairness principles in international climate policy. *International Environmental Agreements*, 2, 1–22.

<sup>21</sup> Chinadialogue. (2010). China’s Interest must come first. <http://www.chinadialogue.net/article/show/single/en/3792-China-s-interests-must-come-first>.

transferring funds from the wealthy and the middle classes to the poor, would in fact deliver “robust mitigation efforts”? How likely, practically, is it that such policies will be implemented?

States do employ taxes, regulations (and subsidies) to redistribute wealth internally. But such redistributive measures are inherently political and often contested when applied domestically. How likely are states to agree to such policies when they would transfer wealth abroad? As the negotiating parties and the only actors currently legitimated and accepted to make global climate policy, states would have to agree to reduce themselves to intermediaries in measures redistributing wealth from their own citizens to the citizens of other countries. Or they would have to bestow this taxing/regulatory/redistributive function to some accepted supranational entity. At present, this seems extremely unlikely, to say the least. In practice, in the negotiations, are there tradeoffs between the pursuit of greater justice and the pursuit of a feasible agreement; tradeoffs between what would be ideally fair and what can actually be agreed; tradeoffs between what would be equitable and what is effectively achievable? If it is unjust for the poor and vulnerable to suffer the impacts of climate change, would it be therefore just for philosophers and policy makers to pursue greater equity even if the insistence on ideal justice meant failure to achieve an imperfect agreement that would actually reduce the impacts of climate change?

## 2.2 Legal Obligations to Combat Climate Change

While a cosmopolitan perspective has the potential to offer fairer benefit and burden sharing, honing in at the state level can nevertheless enhance climate justice by urging states to fulfill their legal obligations with regard to curtailing climate change emissions. There are foundations in existing law that are applicable to climate policy, as highlighted by the Oslo Principles on Global Obligations to Reduce Climate Change (hereafter referred to as the Oslo Principles).<sup>22</sup> The Oslo Principles were adopted on March 1, 2015, by a group of experts in international, environmental, tort, and human rights law. The working group included thirteen lawyers and scientists from nine countries, including judges of the Supreme Court of Brazil, the Netherlands, India, Australia and the European Court of Human Rights. The Oslo Principles both define the scope of states’ legal obligations to protect the environment and outline a means of meeting these obligations. According to the working group there are many legal methods to force a country to reduce greenhouse gas emissions. Judges may, on the basis of international law, human rights and liability judge what a state must do to prevent the harmful effects of climate change. The centerpiece of the Oslo Principles is the Precautionary Principle, which requires that:

- 1) GHG emissions be reduced to the extent and at a pace necessary to protect against the threats of climate change that can still be avoided; and
- 2) the level of reductions of GHG emissions required to achieve this, should be based on any credible and realistic worst-case scenario accepted by a substantial number of eminent climate change experts.

The measures required by the Precautionary Principle should be adopted without regard to the cost, unless that cost is completely disproportionate to the reduction in emissions that will be brought about by expending it.

---

<sup>22</sup> See <http://globaljustice.macmillan.yale.edu/sites/default/files/files/OsloPrinciples.pdf>

By defining the scope of legal obligations relevant to climate change, the Oslo Principles may provide some *opinio juris* that help judges decide whether governments are complying with their legal obligations to address climate change. An example where a state is compelled to scale up its efforts to combat climate change can be found in a court case in the Netherlands, where the state was legally forced to reduce greenhouse gas emissions much more than its own government plans, limiting at least 25 percent, in place of the 17 percent that is achieved with the current policy. This was the verdict of the District Court in The Hague, on 24 June 2015, in a lawsuit filed by the Dutch civil society organization Urgenda. Never before has a court sentenced a national government to a more effective climate policy. In the United States there have been attempts, but they have all failed. Of course, this is “only” a first instance case, whose verdict is not final because it is open to appeal. However, it sets an important precedent in the context of climate change-related public interest litigation.

Not directly related to climate change, but a similar court case occurred in the Philippines, where a group of children demanded a ban on the destruction of the rainforest. The children claimed that large scale logging collided with the right to a balanced and healthy environment for them and for future generations. The highest court in the Philippines judged in favor of the children.

All these court cases, either in the Netherlands, United States or Philippines were confronted with the same question: must the court intervene if policy failures can disrupt a society and the government is not doing enough to stem the tide in time?

Lawsuits to force countries towards an effective climate policy are increasingly being considered as an important avenue for breaking away from political indifferences and deadlocks. The verdict in the court case on climate justice in The Netherlands is the first of its kind worldwide. When filing the court case Urgenda argued that the government is doing too little and should be held accountable for not taking appropriate action to safeguard a healthy environment for future generations. In particular, Urgenda claimed that the Netherlands must reduce greenhouse gases drastically by 2020, and much more than agreed within the EU. In its defense the State of The Netherlands made an appeal to EU policies and international agreements. Alongside, the State relied on the separation of powers: they claim that political decisions on climate policy should not be taken in court, but by the government and parliament. The judge argued that independent courts sometimes need to decide on the conduct of politics, but it must be done with reticence. Since mitigation of climate change actually requires a reduction of 25 to 40 percent of greenhouse gas in 2020, with explicit reference to scientific consensus on this topic, the judge finds 25 per cent, instead of 40, a modest and thus reticent requirement.

The legal obligations (of states) to combat climate change, as exemplified by the historical court case in the Netherlands aligns with a human-rights based approach to climate change, which is currently gaining traction (see section 2.4). The large majority of human rights are affected through climate change, include the rights to life, freedom of expression and movement, housing, water, food, health or professional development alike. They thus ought to be dealt with in regional and international human rights bodies, such as the EU subcommittee on human rights, the Council of Ministries at the Council of Europe and during UN Human Rights Council Sessions. A human rights centered approach shifts the focus from purely economic and scientific considerations consequences towards human rights violations caused by climate change. This approach enhances democratization through active citizen participation and the claim for transparency and accountability. Thus, a positive side-effect of such responses to climate change is the creation of new ways of governance seeking justice based on good governance principles.

## 2.3 Climate Change as a Form of Ecocide

Outside a legal definition, ecocide describes the significant damage to or destruction of an ecosystem to such an extent that peaceful enjoyment of a part of that environment will be substantially diminished. Climate change, coupled with population growth and widespread destruction of natural ecosystems, are driving planet earth towards irreversible changes for which we lack adequate preparation, mitigation and adaptation strategies. A growing body of scientific evidence suggests that the earth has reached a ‘tipping point’<sup>23</sup> and we are approaching ‘planetary boundaries’.<sup>24</sup> Climate change could be considered a form of ecocide occurring on a global scale. Climate justice, therefore, can also be extended to the realm of retributive justice. A range of immediate and effective mechanisms is needed to safeguard the rights of future generations, but also the rights of nature itself against ecocide. One step forward could be the creation of the crime of ecocide as a fifth crime against peace. A research paper by the Human Rights Consortium at the School of Advanced Studies, University of London, has shown that actually the United Nations has discussed such a crime for decades, especially throughout the 1970s - 1990s.<sup>25</sup> The term became known after World War II and, in particular, the Vietnam War. In 1973, a draft Ecocide Convention was published calling for ecocide to be recognized as a peace crime.<sup>26</sup> Even though ecocide was eventually shelved last minute in 1996, several countries implemented it in their national legislations, such as Vietnam,<sup>27</sup> the Russian Federation,<sup>28</sup> and other former Soviet countries.<sup>29</sup>

The most significant convention in which options were explored on how better to include the crime of ecocide was the draft Code of Offences against the Peace and Security of Mankind,<sup>30</sup> a document which eventually was to become the Rome Statute of the International Criminal Court. Three alternatives were discussed: to consider ecocide as a stand-alone crime; as a crime against humanity; or as a war crime.<sup>31</sup> Ultimately, the only remainder in the Rome Statute was Article 8.2.b.iv, under war crimes “*intentionally launching an attack in the knowledge that such attack will cause [...] widespread, long-term and severe damage to the natural environment which would be clearly excessive in relation to the concrete and direct overall military advantage anticipated*”. To date no single party has been convicted of the environmental war crime.

The vital principle of *nulla poena sine lege* articulates that there is no penalty without law. There are several interpretations of this principle in international law, but in this case it speaks to the reality that today there is no international law against criminal mass damage and destruction of ecosystems and animals, especially during peacetime.

<sup>23</sup> University of California – Berkley, *Evidence of Impending Tipping Point for Earth*, Science Daily, (June 2012). Available at: <http://www.sciencedaily.com/releases/2012/06/120606132308.htm>. Last accessed 4 March 2016.

<sup>24</sup> Stockholm Resilience Center, *Planetary Boundaries: Guiding human development on a changing planet*, (January 2015). Available at: <http://science.sciencemag.org/content/early/2015/01/14/science.1259855>. Last accessed 4 March 2016.

<sup>25</sup> Gauger A., Rabatel-Fernel M.P., Kulbicki L., Short D., Higgins P., *Ecocide is the Missing 5<sup>th</sup> Crime Against Peace*, Human Rights Consortium, School of Advanced Study, University of London, (2012).

<sup>26</sup> Richard A. Falk, *Environmental Warfare and Ecocide – Facts, Appraisal and Proposals*, 4-Security Dialogue, Princeton University, pp. 80 – 96 (1973).

<sup>27</sup> See Art. 342 of the Vietnam Penal Code.

<sup>28</sup> See Art. 358 of the Criminal Code of the Russian Federation.

<sup>29</sup> Armenia, the Republic of Moldova, Georgia, Belarus, Ukraine, Kazakhstan, Kyrgyzstan, Tajikistan.

<sup>30</sup> *Draft Code of Offences Against the Peace and Security of Mankind until 1987*; see General Assembly resolution 42/151, of 7 December 1987.

<sup>31</sup> Gauger A. et al., *idem*.

In 2010, Polly Higgins,<sup>32</sup> a British barrister, revived the idea of ecocide. A proposal was introduced into the International Law Commission (ILC) to amend the Rome Statute to include the crime of ecocide. Subsequently, a Model Ecocide law text has been finalized in 2015, which defines the crime of ecocide as:

- (a) *acts or omissions which cause or may be expected to cause, and/or*
- (b) *failure to assist where climate related events have caused or may be expected to cause:*
  - i. *widespread, or*
  - ii. *long-term, or*
  - iii. *severe loss or damage to, or destruction of ecosystem(s) of a given territory, such that peaceful enjoyment by the inhabitants has been or will be severely diminished.*<sup>33</sup>

While awaiting international recognition, these issues are being played out in domestic claims. Several states have started to recognize the rights of nature, ecosystems and animals and there has been an increasing recognition of the intersection between human rights and environmental degradation.<sup>34</sup> Bolivia adopted in 2010 the Law of the Rights of Mother Earth,<sup>35</sup> while Ecuador dedicated an entire chapter of its 2008 constitution to the Rights of Mother Earth (Pachamama). Significantly, several court judgements afford protection to ecosystems and animals. Countries such as Kenya, South Africa, Uganda or Benin have recognized the sanctity of certain natural sites belonging to indigenous communities; Dolphins have recently been recognized to possess ‘personhood’ in India;<sup>36</sup> Belize ruled in the 2009 *Westerhaven vs. Belize* case that “*it is really more accurate to describe and refer to the damage as ‘injury’ to the Barrier Reef because the reef is a living organism*”.<sup>37</sup> In 2008, the Criminal Court of Paris convicted for the first time a company for environmental damage. More recently, in July 2015, Guatemala became the first country to establish a court dedicated to adjudicating the crime of ecocide. In its first case, the Environmental Crimes Court ruled against a palm oil corporation, an industry associated with a litany of human rights and environmental abuses in the country. An appellate court upheld the decision.<sup>38</sup>

While it is important to recognize the progress made by national jurisdictions in addressing crimes to the environment, a void within international law remains and affects the ability of domestic jurisdictions to respond to grave problems of climate change, notwithstanding the legal obligation examples mentioned in Section 2.4. For instance, the Arctic is still protected by soft law instruments, and the legal regime protecting the environment against reckless exploitation remains inadequate.<sup>39</sup>

<sup>32</sup> Polly Higgins, *Eradicating Ecocide*, Shephard-Walwyn Publishers, London, (2010).

<sup>33</sup> More information can be found at <http://eradicatingecocide.com/>. Last accessed 7 March 2016.

<sup>34</sup> From the right to self-determination, right to economic and social development, right to natural resources, right to communicate to the right to food, right to life, health and human dignity.

<sup>35</sup> Bolivia *Ley de Derechos de la Madres Tierra*, (2010).

<sup>36</sup> See Circular F.N0,20-1/2010-CZA(M)/2840 Government of India – Ministry of Environment and Forests, (2010).

<sup>37</sup> Attorney General of Belize vs. MS *Westerhaven Schiffahrts GmbH&Co KG*, Reider Shipping BV (2009).

<sup>38</sup> Courtney Parker, *Justice in Guatemala: Guatemalan Court Upholds Revolutionary Ruling on Ecocide*, IC Magazine, (January 2016). Available here: <https://intercontinentalcry.org/justice-in-guatemala-guatemalan-court-upholds-revolutionary-ruling-on-ecocide/> Last accessed 7 March 2016.

<sup>39</sup> Lay B., Neyret L., Short D., Baumgartner M.U., Oposa A.A., *Timely and necessary: Ecocide Law as Urgent and Emerging*, *The Journal Jurisprudence*, (2015), p. 445.

Ecocide also aims to underline the urgent necessity to establish respect for future generations, a principle that was referenced already in several declarations, such as the 1992 UN Framework Convention on Climate Change, the Stockholm Declaration or the Rio+20 Declaration. Sanitary, environmental and nuclear disasters all demonstrate the need to act and implement legal provisions to safeguard the rights of our children and grandchildren.

Furthermore, the rights of indigenous peoples, whose survival depends on their traditional lands, are threatened where acts of ecocide are being committed. The 2007 Declaration on the Rights of Indigenous Peoples reinforced their right to be engaged in free, prior and informed consent in any process that might affect their livelihood, as stated in ILO's Convention No. 169. Nevertheless, more needs to be done to protect and safeguard these rights.

While recognizing climate change as a form of ecocide, and establishing a new norm that prohibit ecocide might not prevent damage to the environment, it could nonetheless send a strong signal of the obligation upon States, corporations and individuals to protect it.

## 2.4 Outlining a Rights-Based Approach to Climate Change

The Intergovernmental Panel on Climate Change (IPCC)'s Fifth Assessment Report (AR5) confirmed that climate change is real and that it poses an enormous threat to the lives and well-being of individuals and ecosystems across the world.<sup>40</sup> Unequivocally, climate change will have a profound effect on the enjoyment of human rights for billions of people. It is already contributing to food shortages, drought and ecosystem degradation across the entire planet.<sup>41</sup> Reports of the UNFCCC,<sup>42</sup> UNDP,<sup>43</sup> Human Rights Council,<sup>44</sup> as well as of certain think tanks and scholars,<sup>45</sup> have shown clearly that the detrimental effects of climate change fall particularly heavily upon more vulnerable sectors of society owing to geography, poverty, cultural and ethnic background, gender, age or disability. Furthermore, some regions are hit harder than others. Low lying areas and coastal regions tend to be more exposed to extreme weather phenomena, such as hurricanes and flooding<sup>46</sup> than, for example, arid or semi-arid environments that are more prone to desertification and climate change induced shifts in rainfall and seasonal patterns. Rising temperatures are also causing significant changes in the Arctic ecosystems that support many indigenous communities.<sup>47</sup> At the same time, developing countries, and the more vulnerable populations within them, tend to be less capable of adjusting grazing and irrigation methods, introducing disease resistant crops or taking other measures to counteract the impact of climate change on agricultural production and subsistence farming. In this context, the burdens arising from climate change damage and the costs of mitigation or adaptation should be more equitably shared.

<sup>40</sup> IPCC, *Climate Change 2014: Impacts, Adaptation, and Vulnerability*, Contribution of the Working Group II To The Fifth Assessment Report of the Intergovernmental Panel on Climate Change (Cambridge University Press 2014).

<sup>41</sup> See Oxfam, *Entering Uncharted Waters: El Nino and the Threat to Food Security*, (2015).

<sup>42</sup> See UNFCCC *Paris Climate Change Agreement*, available [here](#).

<sup>43</sup> See UNDP Report, *UNDP and Climate Change – Zero Carbon, Sustainable Development*, (November 2015).

<sup>44</sup> See HRC *Summary report on the outcome of the full-day discussion on specific themes relating to human rights and climate change*, held on 6 March 2015 during the twenty-eighth session of the Council.

<sup>45</sup> Such as the Policy Report by Jane McAdam and Marc Limon, *Human Rights, Climate Change and Cross-Border Displacement: the role of the International Human Rights Community in Contributing to Effective and Just Solutions*, (2015).

<sup>46</sup> Anthony Oliver-Smith, *Sea Level Rise and the Vulnerability of Coastal Peoples: Responding to the Local Challenges of Global Climate Change in the 21st Century*, UNU-EHS Publication, (July 2009).

<sup>47</sup> Sheila Watt-Cloutier, *Petition to the Inter-American Commission on Human Rights Seeking Relief from Violations Resulting from Global Warming Caused by Acts and Omissions of the United States*, (December 2005).

Ensuring that climate change related strategies are conceived and implemented in ways that maximize fairness and equity remains the concern of ‘climate justice’. The concept of ‘climate justice’ is a perspective or focus that recommends alignment of climate change prevention, mitigation and adaptation strategies with sustainable development policies that incorporate a human rights-based approach.

In this context, it is therefore useful to explore the meaning of ‘human rights-based approach’ and how it relates to climate justice in more concrete terms. Essentially, the adoption of a human rights-based approach to climate justice implies that challenges and solutions must take full account of the human rights of individuals and groups affected by climate change, of measures to reduce climate change, and of climate change adaptation strategies. It aims to ensure that human rights are accorded prime consideration among the wide array of social, political, economic, and security priorities that face Governments and the international community at large.<sup>48</sup> In view of this, the implementation of measures to control water flow and prevent flood damage through the erection of dams and spillways, for example, should not be carried out in ways that displace indigenous communities or other people from traditional homelands upon which they might depend for their livelihood and survival.<sup>49</sup> To take another example, conservation policies should not be enacted in a way that restricts access to everyone’s right to clean and affordable food and water. More broadly, all climate change related international agenda setting and national policy action should ensure the maximum promotion and protection of the human rights of all on a non-discriminatory basis. In this sense, it is essential to identify clearly which and whose human rights are affected when, where and how. It is crucial to determine the corresponding legal obligations upon Governments, corporations and other key entities to respect those rights when it comes to climate justice issues, as this is the element which lies at the heart of the human rights-based approach.<sup>50</sup>

In turn this implies that policy setting and implementation at all levels should be guided by the basic minimum human rights standards set out in the Universal Declaration of Human Rights, as well as by the main multilateral UN human rights treaties, such as the International Covenant on Economic, Social and Cultural Rights, the International Covenant on Civil and Political Rights, the Convention on the Rights of the Child or the ILO Convention No. 169 concerning Indigenous and Tribal Peoples. The Vienna Declaration and Programme of Action, the Declaration on the Right to Development, the 2030 Agenda for Sustainable Development, the UN Common Understanding of a Human Rights-Based Approach to Development Cooperation, as well as certain other resolutions<sup>51</sup> and soft law<sup>52</sup> at both regional and national level, offer considerable guidance on how to develop climate change policy in a fair and equitable manner, in short, to produce ‘climate justice’.

The interconnectedness and interdependence among all human rights, the principles of non-discrimination and equality, of democratic accountability, rule of law and political

---

<sup>48</sup> See the OHCHR [Report on the Relationship between Climate Change and Human Rights](#), A/HRC/10/61, (January 2009).

<sup>49</sup> Victoria Tauli-Corpus & Aqqaluk Lyngé, *Impact of Climate Change Mitigation Measures on Indigenous Peoples and on their Territories and Lands*, study presented at the UN Economic and Social Council, Permanent Forum on Indigenous Issues, 7th session, E/C 19/2008/10 (2008).

<sup>50</sup> UNEP, in cooperation with Columbia Law School, Sabin Center for Climate Change Law, *Climate Change and Human Rights*, p. 15 (December 2015).

<sup>51</sup> Such as HRC resolution 7/23 that acknowledged the threat of climate change (March 2008); or UNGA resolution 64/2921 that explicitly recognized the human right to water and sanitation and acknowledged that clean drinking water and sanitation are essential to the realization of all human rights (2010).

<sup>52</sup> I.e. Agenda 21 and Principle 10 of the 1992 Rio Declaration on Environment and Development.

inclusiveness of all stakeholders in policy making, on climate change issues, remain basic and uncontroversial standards. Putting these and other related principles into practice, however, poses concrete challenges in terms of actual implementation. As an example, laws regulating water flow to ensure more efficient irrigation because of desertification or shift in rainfall patterns, is bound to advantage some local communities over others and, in some cases, it could even destroy livelihoods or cause transboundary harm to communities downstream.<sup>53</sup>

The principles of indivisibility, interdependence and interrelatedness of human rights remind policy makers that civil and political rights, such as freedom of movement, the right to vote, free speech or freedom of association cannot be accorded priority over the rights to food, clean water, health and other economic, social and cultural rights, or the other way around. Practically speaking, the principles of the rule of law, genuine participation, inclusion and access to information, require that law and policy processes, as well as adjudication of disputes, be done according to the law and legal principles rather than by executive decree or in any other arbitrary manner. In this context, all affected communities, particularly vulnerable groups, must be genuinely, thoroughly and diligently consulted on the decisions which are likely to affect them with regard to climate-related issues. It requires that those who are unavoidably disadvantaged from climate policy decisions be adequately compensated for their loss, that the disadvantage itself is minimized and that, more generally, everyone has recourse to challenge law and policy in climate related matters so that injustices can be fairly redressed.<sup>54</sup>

In short, climate justice has to adopt a consistent human rights-based approach for the following reasons:

- First, the effects of climate change and the measures to prevent, reduce or mitigate these effects, together with climate change adaptation strategies, inevitably affect the human rights of individuals and groups. In order to fully recognize the human rights implications of climate change issues, a human rights-based approach therefore has to be taken that accurately identifies which human rights of whom are affected and how, as well as the kinds of approaches that should be taken to provide redress to those persons;
- Second, policy making regarding climate justice issues will be more sustainable and equitable only if affected populations, particularly vulnerable groups, are fully empowered to associate, organize and present their views on decisions to be taken, in a genuinely and democratic fashion. That implies that climate justice can be achieved only if the human rights guaranteed in all universal human rights standards and norms, of everyone affected in any way by climate change, are fully respected;
- Third, where legal disputes arise in relation to climate change issues, the courts and any other dispute resolution mechanisms, must adjudicate the matter in line with international human rights law. This has to take precedence over domestic law and policy wherever they may be inconsistent for the simple reason that every State is bound by its international law and it therefore cannot accord its own constitutional or statutory domestic law or policy over its international legal obligations.

<sup>53</sup> See Report by the Food and Agriculture Organization of the United Nations and Earthscan, *The State of the World's Land and Water Resources for Food and Agriculture – Managing Systems at Risk*, (2011).

<sup>54</sup> See Mara Silina, European Environmental Bureau & European ECO Forum, *Is Everything Right with Public Participation in Climate Related Decisions?*, Presentation for the Fifth Meeting of the Task Force on Public Participation in Decision-making, Geneva, February 23 – 24, (2015).

## 2.5 Climate Change Induced Migration and Implications for Justice

Prior to addressing the issue of climate change induced migration, it is important to make a distinction between refugees, migrants, and internally displaced persons (IDPs), all of which are covered under this section. The term “refugee” is defined under the 1951 Refugee Convention as a person who “owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality, and is unable to, or owing to such fear, is unwilling to avail himself of the protection of that country.”<sup>55</sup> This is different from the definition of migrant, which is explained by the International Organization for Migration (IOM) to include those that move across borders voluntarily to improve the prospects for themselves or their family.<sup>56</sup> It is worth noting that this is not a universally accepted definition. It should also be acknowledged that the nature of “voluntary” is questionable as studies have shown that most migration decisions fall somewhere on a continuum between forced and voluntary.<sup>57</sup> For movements within national borders, the definition of IDPs is covered under the Guiding Principles on Internal Displacement. It states that IDPs are “persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border.”<sup>58</sup> Under the term IDPs, this paper also includes participants in planned relocation schemes. When this paper makes use of the term climate change induced migration, it refers to movements that take place either directly or indirectly as a result of the impacts of climate change and incorporates all three groups mentioned above.

Droughts in Syria and floods in Bangladesh illustrate how climate change and migration are linked. Reports by the International Food Policy Research Institute and UNISDR show that from 2006 to 2011, 60 percent of the Syrian population had to deal with the worst prolonged drought and the heaviest crop failures for thousands of years as a result of climate change.<sup>59</sup> The consequences include at least two million people living in extreme poverty, farmers forced to relocate to cities, and youth more susceptible to joining extremist groups. The first protests against the Syrian government in early 2011 evolved into the current civil war, which has had far-reaching regional and international consequences, including the worst refugee crisis since the Second World War.

Bangladesh, a low-lying country with the majority of its population living close to sea level, is subject to frequent natural disasters such as cyclones, river floods and sea water intrusion due to a rise in sea levels. Climate change has the potential to displace 20 million people both within and beyond Bangladesh, most of whom will reside in urban slums with lack of access to basic services.<sup>60</sup>

<sup>55</sup> Refugee Convention

<sup>56</sup> IOM webpage

<sup>57</sup> Nishimura 2015

<sup>58</sup> Guiding Principles on Internal Displacement, p.5

<sup>59</sup> See <http://cdm15738.contentdm.oclc.org/utills/getfile/collection/p15738coll2/id/124918/filename/124919.pdf>; [http://www.preventionweb.net/english/hyogo/gar/2011/en/bgdocs/Erian\\_Katlan\\_&\\_Babah\\_2010.pdf](http://www.preventionweb.net/english/hyogo/gar/2011/en/bgdocs/Erian_Katlan_&_Babah_2010.pdf);

<http://www.pnas.org/content/112/11/3241.full.pdf>

<sup>60</sup> See [http://e360.yale.edu/feature/in\\_low-lying\\_bangladesh\\_the\\_sea\\_takes\\_a\\_human\\_toll/2234/](http://e360.yale.edu/feature/in_low-lying_bangladesh_the_sea_takes_a_human_toll/2234/)

Two broad categories of events associated with climate change impact on migration in different ways. Rapid onset events such as storms and floods impact on migration directly and tangibly. These events have become a primary cause of forced migration, particularly internal displacement, and the effects of climate change are expected to intensify such disasters and accelerate displacement rates in upcoming decades. The number of storms, droughts, and floods has increased threefold over the last thirty years and the effects on vulnerable communities has been devastating, particularly in the developing world.<sup>61</sup> Since 2008, an average of nearly twenty-seven million people have been displaced annually by natural hazard-related disasters. This is the equivalent to one person being displaced every second.<sup>62</sup>

The relationship between slow onset events (such as droughts, water scarcity, sea level rise, desertification, and coastal erosion) and migration is more complicated, although ecological responses due to recent climate change are already clearly visible.<sup>63</sup> Examples of slow onset events include water scarcity, sea level rise, desertification, and coastal erosion. Slow onset events place stress on those who are already vulnerable, such as indigenous peoples, women, and children. These groups may be more dependent on natural resources and a healthy ecosystem for their survival as well as having less access to coping mechanisms (e.g. mobility, land ownership, and emergency funds) in their place of residence. As a result, they become migrants or IDPs as an adaptation strategy. In addition, slow onset events act as threat multipliers that exacerbate existing political and social tensions and undermine coping capacities. These may in turn lead to (violent) conflict between or within states, resulting in an increasing number of refugees, migrants, and IDPs.

Where climate change induced migration is taking place, there are grave implications, particularly for the human rights of refugees and IDPs. The most relevant human rights in the context of climate change induced migration are economic, social, and cultural rights. Among these are the rights to health or a healthy environment, to establish and uphold a family, to adequate housing, to access water and food, to property such as a house or land, to education, and to choose one's own professional development. The lack of citizen status and sometimes also the inability to speak the host area's language implies that many refugees do not have access to basic services, are deprived of many abovementioned rights, and cannot effectively participate in decision-making. The challenges are not as severe for IDPs. Families of IDPs are often separated by force. They are driven to unfamiliar territories where it is more difficult, or even impossible, to exercise their skills or professional qualifications. Moreover, uprooted people, be they refugees or IDPs, not only face material losses but also the loss of their religious, ancestral or heritage sites, their native language and traditions when they have to adapt and survive in alien territories. In addition, for host communities, particularly those that are linguistically and culturally diverse, both unplanned displacement and planned relocation of significant population groups to their communities may upset established communities and lead to cultural and social tension, radicalization, and conflict. Finally, as natural resource dependent rural livelihoods are undermined by climate change impacts, a rapid urbanization process also results in significant stress for urban areas, the majority of which are located in some of the most vulnerable hotspots of the world such as deltas and coastal areas.

Climate change induced migration poses new challenges to the international system. The related legal and normative framework as well as institutional roles and responsibilities

---

<sup>61</sup> Internal Displacement Monitoring Centre (IDMC), "Global Estimates: People Displaced by Disasters" (Geneva: IDMC, September 2014).

<sup>62</sup> *Idem*

<sup>63</sup> See [http://www.uvm.edu/~bbeckage/Teaching/HCOL\\_185\\_2014/AssignedPapers/Walther.Nature.2002.pdf](http://www.uvm.edu/~bbeckage/Teaching/HCOL_185_2014/AssignedPapers/Walther.Nature.2002.pdf)

remains poorly developed and defined.<sup>64</sup> There is no legally binding international agreement for climate change induced migration, although there is a UN Human Rights Council Special Rapporteur on the human rights of internally displaced persons. International law does not grant refugee status to those forced to move across borders because of climate change, because these movements are not made as a consequence of political persecution. A case from September 2015 illustrates this gap very well. A Kiribati national, whose land and livelihoods is being eroded by climate change requested refugee status in New Zealand but was rejected by the high court of New Zealand due to a lack of legal basis for his refugee status.<sup>65</sup> There is also no clear provision for internal displacement occurring due to climate change. For example, internal migrants such as farmers are forced to move to cities due to long term droughts and multi-annual crop failures (e.g. in Syria) or conflicting land claims (e.g. in Burundi). Currently, these movements are subject to domestic laws and should normally be governed by freedom of movement and settlement. While some internal displacement is seasonal, others are permanent if the habitat on which people's livelihoods depend on is completely destroyed by climate change. The Guiding Principles on Internal Displacement provides a normative framework for national authorities to protect IDPs in the context of conflict, human rights violations, natural disasters and development projects and can in theory cover internal displacements due to climate change impacts. Nevertheless, these are not legally binding.

In addition to the gap in international law to govern climate change induced migration, there is also the difficulty of pinpointing the source of harm in causing climate change induced migration, which is of a similar nature to the challenge of attributing responsibilities to states in the international negotiations within the climate change regime. In addition, the multiple pathways and feedbacks between the climate system, natural resources, human security, and societal stability make the linkage between climate change and the actual movement problematic to establish. As a result, the question of who should take responsibility for refugees, migrants, and IDPs remains unanswered. For cross-border movements, as "climate refugees" fall through the cracks of the international legal system, humanitarian assistance offered to them can only be based on creative use of existing instruments associated with political persecution, whose relationship with climate change impacts is nevertheless difficult to establish. For internal displacement, developing countries, particularly fragile states, bear a disproportionate burden for protecting and assisting internal displacement within their countries while their richer counterparts have historically contributed (and arguably still are contributing) to the majority of greenhouse gas emissions. Protection for those involved in climate change induced migration is therefore dependent on the moral obligation of the global society rather than legal obligation.<sup>66</sup>

In summary, both rapid and slow onset events caused by climate change can significantly cause, alongside other factors, movement of people within and across borders, making it difficult for them to access basic human rights. Whether they are rapid or slow onset events, the links between climate change impacts and migration are far from straightforward. Climate-specific factors are difficult to isolate from other challenges, such as conflict, governance and levels of development. It is therefore important to look at the broader context of migration. The importance of dealing with climate change induced migration has been recognized by the UNFCCC, which in the Cancun Adaptation Framework mentioned that Parties should take "measures to enhance understanding, coordination and

---

<sup>64</sup> Martin, 2010; Bradley and Cohen, 2013

<sup>65</sup> <http://www.theguardian.com/environment/2015/sep/22/kiribati-climate-change-refugee-told-he-must-leave-new-zealand>

<sup>66</sup> Nishimura 2015

cooperation with regard to climate change induced displacement, migration and planned relocation, where appropriate, at national, regional and international levels.”<sup>67</sup> While most persons uprooted by environmental disasters will remain within their own countries, entitled in theory to the protections set out in the Guiding Principles on Internal Displacement, their state may lack the capacity or willingness to provide assistance. Perhaps an even larger protection gap pertains to refugees who cross international borders. Strengthening protection for those displaced by the effects of climate change must include: clarifying and expanding normative and organizational frameworks; crafting comprehensive national protection policies; raising awareness of human rights protection; and pioneering more effective approaches for dealing with states that fail to protect their citizens.<sup>68</sup>

Even though climate change induced migration has been recognized in the Cancun Adaptation Framework, the historical COP21 climate-deal reached in Paris does not expand the definition of a refugee to include climate-induced migration, much to the disappointment of some close observers.<sup>69</sup> As a result, the UN still does not recognize climate or extreme weather as grounds for asylum. It is crucial, however, that high-level policy-makers adopt at least some of the above-mentioned options to protect millions who have fled their homes due to extreme weather.

## 2.6 Multilevel Governance Challenges

Most specialists agree that states face many institutional inadequacies when mitigating or adapting to climate change impacts and that new governance mechanisms are needed to improve climate governance at multiple levels. The concept of multilevel governance is an effort to collectively solve public problems by involving a series of relevant actors from the local to the global level, such as institutions, states, civil society, and business. Governance challenges, whatever countries’ institutional settings and context, are significant and critical.

The term *multilevel* governance is used to characterize the relationship between public actors situated at different administrative and territorial levels. This creates layers of actors who interact with each other: (1) across different levels of government (vertical coordination); (2) among relevant actors at the same level (horizontal coordination at central or at subnational level); or (3) on a networked basis. This relationship exists regardless of constitutional system (federal or unitary) and affects the implementation of public policy.<sup>70</sup>

Debates over scaling powers within multilevel governance have become widely discussed in several related academic subdisciplines, including economic federalism, political geography, EU studies, and international public policy.<sup>71</sup> For example, conflicts over the appropriate scale or institutional level of policymaking characterize multilevel governance.<sup>72</sup>

<sup>67</sup> Decision 1/CP.16, The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention, in Report of the Conference of the Parties on its sixteenth session, Addendum, Part Two: Action taken by the Conference of the Parties, FCCC/CP/2010/7/Add.1, 15 Mar 2011 (Cancun Adaptation Framework) para 14(f).

<sup>68</sup> Bradley, M., Cohen, R. (2013) Disasters, Displacement and Protection: Challenges, Shortcomings and Ways Forward. In: Disentangling Migration and Climate Change, 2013, pp 207-228, Springer

<sup>69</sup> <http://www.nytimes.com/interactive/projects/cp/climate/2015-paris-climate-talks/helping-climate-change-refugees>

<sup>70</sup> Huntjens, Patrick. “Water management and water governance in a changing climate: Experience and insights on climate change adaptation in Europe, Africa, Asia and Australia.” Eburon Academic Publishers, 2010

<sup>71</sup> On federalism, see, for example, Wallace Oates, “Environmental Policy in the European Community: Harmonization or National Standards?” *Empirica* 25, no. 1 (1998): 1–13; on political geography, see David Delaney and Helga Leitner, “The Political Construction of Scale,” *Political Geography* 16, no. 2 (1997): 93–97; on EU studies, see Liesbet Hooghe and Gary Marks, “Unraveling the Central State, but How? Types of Multi-level

Under certain circumstances, experience gained and solutions found at one level of a particular scale might be appropriate to solve a problem at either a higher or a lower level of that scale. Thus scaling is a concern when searching for solutions to multiscale and multilevel systems such as linked social-ecological systems. On the other hand, caution in transferring institutional arrangements is critical because an arrangement that fits one setting of a problem might not be suitable on another level or scale.<sup>73</sup>

Within this paper, we propose several recommendations for addressing multilevel governance challenges for climate governance, including integration of important bottom-up processes of learning with top-down policy strategies, vertical integration across levels, horizontal integration across policies, and adaptive or polycentric governance.

## 2.7 Institutional Design for Climate Governance

As climate action is operationalized, considerations and local perceptions of justice must be taken into account in designing mitigation and adaptation programs. Social justice in climate action also means inclusiveness: those who are supposed to benefit from climate action must be included in the decision-making process to ensure that mitigation and adaptation measures do not reinforce existing perceptions of injustice or produce new tensions. For this reason, vulnerability and risk assessments are needed to avoid *mal-adaptation*, given that adaptation actions might well *increase* vulnerability rather than reduce it. Some examples are sea level rise or flood protection infrastructure that disturbs the natural dynamic nature of coastal and river systems, or cooling or water supply technologies that increase energy consumption. Interventions can shift the distribution of benefits or involuntary risks from one group to another.<sup>74</sup> Adaptation may even exacerbate injustice, such as when actions in the logic of protecting national assets and interests render some disadvantaged groups even more vulnerable. Hence, a better understanding is required of the underlying processes of climate change adaptation pertaining to trust building, conflict resolution, and pursuits of social justice among vulnerable parties.

If, under present conditions climate variability is already important to successful management of water and natural resources in many parts of the world, in that it drives processes of local, national, and regional adaptation, then climate change adds to the existing complexities of achieving just socioeconomic development that involves multiple uses of water among growing numbers of users in fair and sustainable ways.<sup>75</sup> Proactive integration of climate change adaptation, disaster risk reduction, and sustainable development strategies is often needed. However, as yet we know little about the politics of how strategies actually work, whether in regard to trust building, conflict resolution, how which different interests are weighed against each other, or some other way.

---

Governance,” *American Political Science Review* 97, no. 2 (May 2003): 233–43; on international public policy, see Young, *Creating Regimes*.

<sup>72</sup> Young, *Creating Regimes*.

<sup>73</sup> *Ibid.*, 10.

<sup>74</sup> Louis Lebel et al., “Adaptation to Climate Change and Social Justice: Challenges for Flood and Disaster Management in Thailand,” in *Climate Change Adaptation in the Water Sector*, ed. Fulco Ludwig, Pavel Kabat, Henk van Schaik, and Michael van der Valk, 125–41 (London: Earthscan, 2009).

<sup>75</sup> Margaret Palmer et al., “Climate change and the world’s river basins: Anticipating management options,” *Frontiers in Ecology and Environment* 6, no. 1 (2008): 81–89; Stéphanie Hallegatte, “Strategies to adapt to an uncertain climate change,” *Global Environmental Change* 19 (2009) 240–47; Louis Lebel and B. T. Sinh, “Politics of floods and disasters,” in *Democratizing Water Governance in the Mekong Region*, ed. Louis Lebel, J. Dore, R. Daniel, and Y. S. Koma, 37–54 (Chiang Mai: Mekong Press, 2007); Lebel et al., “Adaption to Climate Change.”

Patrick Huntjens and his colleagues provide an evidence-based contribution to understanding processes of climate change adaptation in the Netherlands, Australia, and South Africa that builds on the work of Nobel Prize Winner Elinor Ostrom on institutional design principles for local common pool resources systems.<sup>76</sup> In dealing with complexities and uncertainties related to the impacts of climate change, the authors argue, additional or adjusted institutional design propositions are needed to facilitate learning processes.<sup>77</sup> This is especially true in addressing complex, cross-boundary and large-scale resource systems, such as river basins and delta areas in the Netherlands and South Africa or groundwater systems in Western Australia. Huntjens and his colleagues provide empirical support for a set of ten refined and extended institutional design propositions for the governance of adaptation to climate change (see box 1).<sup>78</sup> Together they capture structural, agency, and learning dimensions of the adaptation challenge and provide a strong initial framework to explore key institutional issues in the governance of adaptation to climate change. These propositions support a *management as learning* approach to dealing with complexity and uncertainty. They do not specify blueprints, but encourage adaptation tuned to the specific features of local geography, ecology, economies, and cultures.

All parties—donor community, government, civil society, and others—must be aware that developing context-specific arrangements for all these elements is critical. The arrangements should take into account the environment in which local governmental and nongovernmental stakeholders have to operate, focusing on effective cooperation between them, the required capacity building and training of staff, joint information production and exchange, how to deal with corruption, and how to provide a positive incentive structure that stimulates accountability and responsiveness.<sup>79</sup>

**Box 1. Institutional Design Principles for Climate Governance**

- 1) Clearly defined boundaries
- 2) Equal and fair (re)distribution of risks, benefits and costs
- 3) Collective choice arrangements
- 4) Monitoring and evaluation
- 5) Graduated sanctions
- 6) Conflict prevention and resolution mechanisms
- 7) Minimal recognition of rights to organize
- 8) Nested enterprises or polycentric governance
- 9) Robust and flexible processes
- 10) Policy learning

Source: Ostrom, 1990; Huntjens, 2010; Huntjens et al. 2012.

<sup>76</sup> Patrick Huntjens et al., “Institutional design propositions for the governance of adaptation to climate change in the water sector,” *Global Environmental Change* 22, no. 1 (2012): 67–81; Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (New York: Cambridge University Press, 1990); “A Diagnostic Approach for Going Beyond Panaceas,” *Proceedings of the National Academy of Sciences* 104, no. 39 (2007): 11581–87.

<sup>77</sup> Huntjens et al., “Institutional design proposition for the governance of adaptation to climate change in the water sector.”

<sup>78</sup> Marcus Wijnen et al., “Managing the Invisible: Understanding and Improving Groundwater Governance” (Washington, DC: World Bank, Water Partnership Program, 2012).

<sup>79</sup> Huntjens, Patrick, Claudia Pahl-Wostl, Benoit Rihoux, Maja Schlüter, Zsuzsanna Flachner, Susana Neto, Romana Koskova, Chris Dickens, and Isah Nabide Kiti, “Adaptive Water Management and Policy Learning in a Changing Climate: A Formal Comparative Analysis of Eight Water Management Regimes in Europe, Asia, and Africa,” *Environmental Policy and Governance* 21, no. 3 (2011): 145–63.

The design principles have several potential uses in practice. First, by taking into account the issues they highlight, making and evaluating steps at different levels of governance can be made more adaptive. In this type of application, the design principles can be seen as diagnostic tools rather than blueprints for institutional reform. The specific solutions are almost always highly context dependent.

Second, the principles should be useful for exploring new and refining existing adaptation strategies by focusing more attention on their governance—in particular, how decisions about particular strategies are reached. This can help overcome the frequent neglect of power relations and interests in the making of adaptation policy.

Third, the principles may be useful not only to planning agencies and government processes but also to community-based organizations and the private sector actors interested in working with other stakeholders in proactive approaches to adaptation. Several of the roles implied by the design principles may be taken up effectively in some situations by nonstate actors and multistakeholder bodies.

### 3. Policy and Governance Recommendations

Based on our analysis, we identify the following key policy and governance reform recommendations for advancing climate justice, as summarized below:

- **Looking beyond the state and towards a cosmopolitan perspective on climate justice.**

As much as everyone recognizes the need to find a burden-sharing formula that can generally be accepted as “fair” by most governments, the framing of the climate change problematique in terms of states does not seem to offer much hope for achieving this. If we open up the traditionally closed box of “the state,” we see that the real divide is not only between developed and developing states, but also between affluent and poor people. One way of recognizing this is to focus less on states and more on people. In short, to get robust mitigation efforts off the ground, it is essential that the high-carbon lifestyles of the global middle class are taxed and regulated, as well as those of the world’s most affluent people. Hence, from a cosmopolitan perspective, the global costs for adaptation to climate change should be shared not between states but redistributed between the world’s wealthy (i.e. those capable of contributing) and the poor (i.e. those most heavily affected but least able to contribute). According to this logic, while the state has an important role as ‘intermediary’, funds would essentially flow from the capable to the vulnerable across boundaries.

- **Urging the fulfilment of legal obligations to combat climate change**

States can no longer hide behind slow international negotiations and an apparent absence of agreements on climate change. Existing law already spells out legal obligations to reduce GHG emissions. The Oslo Principles can be seen both as an awareness raising instrument and as a guide for judges to urge compliance by the state with their existing legal obligations, which can be invoked by civil society to hold their governments accountable when they are not doing enough to mitigate climate change.

- **Recognizing climate change as a form of ecocide and a crime against peace**

Due to the irreversible global (environmental) changes that climate change is causing, with impacts extending onto the future generations, (future) peaceful enjoyment of the damaged environment becomes substantially diminished. Climate change can and should be recognized as a form of ecocide, with ecocide also recognized as a crime against peace in international law. The official inclusion of ecocide prevention as an international norm can help advance climate justice by, at a minimum, signaling to states, corporations and individuals that they have obligations to mitigate climate change and at a maximum, provide a new mechanism for safeguarding rights violated due to a lack of action to address climate change.

- **A human-rights based approach to climate justice**  
 A human rights-based approach to climate justice provides a valuable lens for ensuring that climate change mitigation and adaptation strategies are both equitable and fair. Every State has an obligation to respect and protect human rights and ensure that responses to climate change do not result in human rights violations. In this sense, the global human rights regime comprising international human rights law, guiding principles and resolutions, must ensure all stakeholders, particularly vulnerable parts of the population, have access to remedies as well as the right to participate fully in climate change policy making.
- **Strengthening protection for those displaced by the effects of climate change.**  
 While most persons uprooted by environmental disasters will remain within their own countries, entitled to the protections set out in the Guiding Principles on Internal Displacement, there is a need for greater clarity regarding the status and protection requirements of those displaced by ‘slow onset’ disasters. But the largest protection gap pertains to environmentally displaced persons who cross international borders. Strengthening protection for those displaced by the effects of climate change must include clarifying and expanding normative and organizational frameworks; crafting comprehensive national protection policies; raising awareness of human rights protection; and pioneering more effective approaches for dealing with states that fail to protect their citizens.
- **Formulate institutional design proposals for inclusive and equitable climate governance at multiple levels.**  
 The institutional design propositions for inclusive and equitable climate governance, as described in section 2.8, capture structural, agency and learning dimensions of the governance challenge. They also provide a strong initial framework to explore key institutional issues in the governance of climate adaptation or mitigation. Context-specific arrangements are critical. These arrangements need to take the environment in which local government and other stakeholders have to operate into account. It requires a focus on stakeholder participation, effective cooperation, capacity building and staff training, joint information production and exchange, how to deal with corruption, and how to provide a positive incentive structure, which stimulates accountability and responsiveness.
- **Multi-level and multi-stakeholder climate governance to advance climate justice.**  
 To be effective, climate governance needs to include the macro level (intergovernmental and international), the meso level (regional, national, and subnational), and the micro level (municipal, local, and community). It also and

especially needs to be nonterritorial (corporate, industrial, transnational, and transboundary).

Multilevel governance is needed to create the necessary linkages, by means of participation and deliberation, informed by context in order to incorporate political and public support, and verify and accredit activities on the ground. This in turn entails fine-tuning bottom-up learning processes with top-down policy strategies and visions.

It is clear that a ‘one-size-fits-all’ approach for mitigation or adaptation is not appropriate for the complexities of climate change. Strategies should stimulate and support pro-active mitigation and adaptation responses, whilst retaining the flexibility and robustness necessary for enabling the development, testing and implementation of measures at the local scale. The complexities of climate change impacts poses a major challenge for strategic policy communities, since integration needs to occur horizontally across different sectors and policy areas, as well as vertical integration across levels. This ultimately will require the consideration of mitigation or adaptation through existing institutional mechanisms, a process commonly known as ‘mainstreaming’. In consequence, this means that local authorities have to adapt their spatial planning, housing, farming, water management, public health and otherwise business policies to the environmental and climatic changes. Resettlements and reallocation of people is one of the most applicable adaptation policies which communities and governments have to deal with.

## Works Cited

- Academic Foundation. *Security Implications of Climate Change for India*, report of the Institute for Defence Studies and Analyses Working Group. New Delhi: Academic Foundation, 2009.
- Babcicky, Philipp. “A Conflict-Sensitive Approach to Climate Change Adaptation.” *Peace Review: A Journal of Social Justice* 25, no. 4 (2013): 480–88.
- Barnett, Jon, and W. Neil Adger. “Climate Change, Human Security and Violent Conflict.” *Political Geography* 26 (2007): 639–55.
- Borgerson, Scott G. “Arctic Meltdown.” *Foreign Affairs* 87, no. 2 (2008): 63–77.
- Brauch, Hans Günter, and Jürgen Scheffran. “Introduction: Climate Change, Human Security, and Violent Conflict in the Anthropocene.” In *Climate Change, Human Security and Violent Conflict*, ed. Jürgen Scheffran, Michael Brzoska, Hans Günter Brauch, Peter Michael Link, and Janpeter Schilling. Heidelberg: Springer, 2012.
- Breisinger, Clemens, Tingju Zhu, Perrihan Al Riffai, Gerald Nelson, Richard Robertson, Jose Funes, and Dorte Verner. “Global and Local Economic Impacts of Climate Change in Syria and Options for Adaptation.” IFPRI Discussion Paper no. 01091, International Food Policy Research Institute, Washington, DC, June 2011.
- Brown, Oli, Anne Hammill, and Robert McLeman. “Climate Change as the ‘New’ Security Threat: Implications for Africa.” *International Affairs* 83, no. 6 (2007): 1141–54.

Brzoska, Michael. "Climate Change as a Driver of Security Policy." In *Climate Change, Human Security and Violent Conflict*, ed. Jürgen Scheffran, Michael Brzoska, Hans Günter Brauch, Peter Michael Link, and Janpeter Schilling. Heidelberg: Springer, 2012.

Buhaug, Halvard, and Ole Magnus Theisen. "On Environmental Change and Armed Conflict." In *Climate Change, Human Security and Violent Conflict*, ed. Jürgen Scheffran, Michael Brzoska, Hans Günter Brauch, Peter Michael Link, and Janpeter Schilling. Heidelberg: Springer, 2012.

Byravan S, Rajan S. "Providing new homes for climate change exiles." *Climate Policy*. No. 6 (2006): 247–252.

Council of the European Union. "Council Conclusions on EU water diplomacy." Foreign Affairs Council meeting, Brussels, July 22, 2013.

Defense Intelligence Agency. "Intelligence Community Assessment on Global Water Security." ICA 2012-08. Washington: US Department of State, February 2, 2012. Available at: [http://www.dni.gov/files/documents/Special%20Report\\_ICA%20Global%20Water%20Security.pdf](http://www.dni.gov/files/documents/Special%20Report_ICA%20Global%20Water%20Security.pdf).

Delaney, David, and Helga Leitner. "The Political Construction of Scale." *Political Geography* 16, no. 2 (1997): 93–97.

Erian, Wadid, Bassem Katlan, and Ouldbdey Babah . "Drought vulnerability in the Arab region: Special case study: Syria." Damascus: Global Assessment Report on Disaster Risk Reduction, 2011. Available at: [http://www.preventionweb.net/english/hyogo/gar/2011/en/bgdocs/Erian\\_Katlan\\_&\\_Babah\\_2010.pdf](http://www.preventionweb.net/english/hyogo/gar/2011/en/bgdocs/Erian_Katlan_&_Babah_2010.pdf).

Geddes, Andrew, and William Somerville. "Migration and Environmental Change in International Governance: The Case of the European Union." *Environment and Planning C: Government and Policy* 30, no. 6 (2012): 1015–28. doi: 10.1068/c1249j.

Gerhardt, Hans, Philip E. Steinberg, Jeremy Tasch, Sandra J. Fabiano, and Rob Shields. "Contested Sovereignty in a Changing Arctic." *Annals of the Association of American Geographers* 100, no. 4 (2010): 992–1002.

German Advisory Council on Global Change. "Climate Change as a Security Risk." Berlin: WBGU, 2008. Available at: [http://www.wbgu.de/fileadmin/templates/dateien/veroeffentlichungen/hauptgutachten/jg2007/wbgu\\_jg2007\\_engl.pdf](http://www.wbgu.de/fileadmin/templates/dateien/veroeffentlichungen/hauptgutachten/jg2007/wbgu_jg2007_engl.pdf).

Global Commission on the Economy and Climate (Global Commission). *Better Growth Better Climate: The New Climate Economy Report*. Washington, DC: World Resources Institute, September 2014, p. 152. Available at: <http://www.newclimateeconomy.report>.

Haldén, Peter. *The Geopolitics of Climate Change*. Stockholm: Swedish Defence Research Agency, 2007.

Hallegatte, Stéphanie. "Strategies to adapt to an uncertain climate change." *Global Environmental Change* 19 (2009): 240–47.

Harris, Shane. "Water Wars." *Foreign Policy*, September 18, 2014. Available at: <http://foreignpolicy.com/2014/09/18/water-wars/>.

Hartmann, Betsy. "Rethinking Climate Refugees and Climate Conflict: Rhetoric, Reality and the Politics of Policy Discourse." *Journal of International Development* 22, no. 2 (2010): 233–46. doi: 10.1002/jid.1676.

Holland, Andrew, and Xander Vagg. "The Global Security Defense Index on Climate Change." Washington, DC: American Security Project, 2013. Available at: <http://americansecurityproject.org/ASP%20Reports/Ref%2000121%20-%20Global%20Security%20Defense%20Index%20P-Results.pdf> and <http://www.americansecurityproject.org/climate-energy-and-security/climate-change/gsdicc/>.

Homer-Dixon, Thomas F. *Environment, Scarcity, and Violence*. Princeton, NJ: Princeton University Press, 1999.

Hooghe, Liesbet, and Gary Marks. "Unraveling the Central State, but How? Types of Multi-level Governance." *American Political Science Review* 97, no. 2 (May 2003): 233–43.

Huntjens, Patrick. "Water management and water governance in a changing climate: Experience and insights on climate change adaptation in Europe, Africa, Asia and Australia." Eburon Academic Publishers, 2010

Huntjens, Patrick, Claudia Pahl- Wostl, Benoit Rihoux, Maja Schlüter, Zsuzsanna Flachner, Susana Neto, Romana Koskova, Chris Dickens, and Isah Nabide Kiti, "Adaptive Water Management and Policy Learning in a Changing Climate: A Formal Comparative Analysis of Eight Water Management Regimes in Europe, Asia, and Africa," *Environmental Policy and Governance* 21, no. 3 (2011): 145–63.

Huntjens, Patrick, Louis Lebel, Claudia Pahl-Wostl, Jeff Camkin, Roland Schulze, and Nicole Kranz. "Institutional design propositions for the governance of adaptation to climate change in the water sector." *Global Environmental Change* 22, no. 1 (2012): 67–81.

Huysmans, Jef. *The Politics of Insecurity: Fear, Migration and Asylum in the EU*. Abingdon: Routledge, 2006.

Internal Displacement Monitoring Centre (IDMC). "Global Estimates: People Displaced by Disasters." Geneva: IDMC, September 2014. Available at: <http://www.internal-displacement.org/assets/publications/2014/201409-global-estimates2.pdf>.

International Crisis Group (ICG). "Water Pressure in Central Asia." Europe and Central Asia Report no. 233. Brussels: International Crisis Group, September 11, 2014.

Intergovernmental Panel on Climate Change (IPCC). *Climate Change 2013: The Physical Science Basis*. Working Group I, 5th Assessment Report. Cambridge: Cambridge University Press, 2013.

———. *Climate Change 2014: Impacts, Adaptation, and Vulnerability*. Working Group II, 5th Assessment Report. Cambridge: Cambridge University Press, 2014.

- Keil, Kathrin. "The Arctic: A New Region of Conflict? The Case of Oil and Gas." *Cooperation and Conflict* 49, no. 2 (2014): 162–90.
- Kelley, Colin P., Shahrzad Mohtadib, Mark A. Canec, Richard Seagerc, and Yochanan Kushnirc. "Climate Change in the Fertile Crescent and Implications of the Recent Syrian Drought." *Proceedings of the National Academy of Sciences* 112, no. 11 (2015): 3241–46.
- Lebel, Louis, and B. T. Sinh. "Politics of floods and disasters." In *Democratizing Water Governance in the Mekong Region*, ed. Louis Lebel, J. Dore, R. Daniel, and Y. S. Koma, 37–54. Chiang Mai: Mekong Press, 2007.
- Lebel, Louis, Tira Foran, Po Garden, and Jesse B. Manuta. "Adaptation to Climate Change and Social Justice: Challenges for Flood and Disaster Management in Thailand." In *Climate Change Adaptation in the Water Sector*, ed. Fulco Ludwig, Pavel Kabat, Henk van Schaik, and Michael van der Valk, 125–41. London: Earthscan, 2009.
- Martin, Susan F. "Climate Change, Migration, and Adaptation." Paper prepared for the Transatlantic Study Team on Climate-Induced Migration. Washington, DC: German Marshall Fund of the United States, June 2010.
- Matthew, Richard. "Integrating Climate Change into Peacebuilding." *Climatic Change* 123, no. 1 (2014): 83–93.
- McDonald, Matt. "Discourses of Climate Security." *Political Geography* 33, no. 1 (2013): 42–51.
- Oates, Wallace E. "Environmental Policy in the European Community: Harmonization or National Standards?" *Empirica* 25, no. 1 (1998): 1–13.
- Oels, Angela. "From 'Securitization of Climate Change to 'Climatization' of the Security Field: Comparing Three Theoretical Perspectives." In *Climate Change, Human Security and Violent Conflict*, ed. Jürgen Scheffran, Michael Brzoska, Hans Günter Brauch, Peter Michael Link, and Janpeter Schilling. Heidelberg: Springer, 2012.
- Ostrom, Elinor. "A Diagnostic Approach for Going Beyond Panaceas." *Proceedings of the National Academy of Sciences* 104, no. 39 (2007): 15181–87.
- . *Governing the Commons: The Evolution of Institutions for Collective Action*. New York: Cambridge University Press, 1990.
- Palmer, Margaret A., Catherine R. Liermann, Christer Nilsson, Martina Florke, Joseph Alcamo, P. S. Lake, and Nick Bond. "Climate change and the world's river basins: Anticipating management options." *Frontiers in Ecology and Environment* 6, no. 1 (2008): 81–89.
- Sayne, Aaron. *Climate Change Adaptation and Conflict in Nigeria*. Washington: United States Institute of Peace, June 2011. Available at: [http://www.usip.org/sites/default/files/Climate\\_Change\\_Nigeria.pdf](http://www.usip.org/sites/default/files/Climate_Change_Nigeria.pdf).
- Scheffran, Jürgen, Michael Brzoska, Hans Günter Brauch, Peter Michael Link, and Janpeter Schilling. *Climate Change, Human Security and Violent Conflict*. Heidelberg: Springer, 2012.

Scheffran, Jürgen, Tobias Ide, and Janpeter Schilling. “Violent Climate or Climate of Violence? Concepts and Relations with Focus on Kenya and Sudan.” *International Journal of Human Rights* 18, no. 3 (2014): 369–90.

Stern, Nicholas. “The Structure of Economic Modeling of the Potential Impacts of Climate Change: Grafting Gross Underestimation of Risk onto Already Narrow Science Models.” *Journal of Economic Literature* 51, no. 3 (2013): 838–59.

Tänzler, Dennis, Alexander Carius, and Achim Maas. *The Need for Conflict-Sensitive Adaptation to Climate Change*. Berlin: Adelphi, 2013.

Pacific Institute. “The Water Conflict Chronology and Database.” The Pacific Institute, 2015. Available at: <http://www.worldwater.org/water-data/>.

Trombetta, Maria J. “Climate Change and the Environmental Conflict Discourse.” In *Climate Change, Human Security and Violent Conflict*, ed. Jürgen Scheffran, Michael Brzoska, Hans Günter Brauch, Peter Michael Link, and Janpeter Schilling. Heidelberg: Springer, 2012.

Trombetta, Maria J. “Linking climate-induced migration and security within the EU: Insights from the securitization debate.” *Critical Studies on Security* 2, no. 2 (2014): 131–47. doi: 10.1080/21624887.2014.923699.

United Nations Development Programme (UNDP). *New Dimensions of Human Security*. New York: Oxford University Press, 1994. Available at: <http://hdr.undp.org/en/content/human-development-report-1994>.

———. *Sustainability and Equity: A Better Future for All*. Human Development Report 2011. New York: Palgrave Macmillan, 2011.

United Nations Environment Programme (UNEP). “From Conflict to Peacebuilding: The Role of Natural Resources and the Environment.” Nairobi: UNEP, 2009.

University Corporation for Atmospheric Research (UCAR). “How Much Has the Global Temperature Risen in the Last 100 Years?” Available at: <https://www2.ucar.edu/climate/faq/how-much-has-global-temperature-risen-last-100-years>.

U.S. Agency for International Development (USAID). “Technical Publications on Conflict Management and Mitigation,” 2015. Available at: <http://www.usaid.gov/what-we-do/working-crises-and-conflict/technical-publications>.

Wæver, Ole. “Securitization and Desecuritization.” In *On Security*, ed. Ronnie Lipschut, 46–88. New York: Columbia University Press, 1995.

Wegge, Njord. “The Political Order in the Arctic: Power Structures, Regimes and Influence.” *Polar Record* 47, no. 2 (2011): 1–12.

What’s In Blue. “Arria Formula Meeting on Climate Change.” February 14, 2013. Available at: <http://www.whatsinblue.org/2013/02/arria-formula-meeting-on-climate-change.php>.

Wijnen, Marcus, Benedicte Augeard, Bradley Hiller, Christopher Ward, and Patrick Huntjens. “Managing the Invisible: Understanding and Improving Groundwater Governance.” Washington, DC: World Bank, Water Partnership Program, 2012.

Young, Oran R. *Creating Regimes: Arctic Accords and International Governance*. Ithaca, NY: Cornell University Press, 1998.

———. *The Institutional Dimensions of Environmental Change: Fit, Interplay, and Scale*. Global Environmental Accords: Strategies for Sustainability. Cambridge, MA: MIT Press, 2002.

Zhang, Ting. “A Conflict-Sensitive Approach to Climate Change Mitigation and Adaptation in the Urbanizing Asia-Pacific.” Working Paper No. 7, The Hague Institute for Global Justice, 2015.