

# Climate Change Adaptation and Human Rights: An Equitable View\*

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No community with a sense of justice, compassion or respect for basic human rights should accept the current pattern of adaptation. Leaving the world's poor to sink or swim with their own meager resources in the face of the threat posed by climate change is morally wrong. Unfortunately... this is precisely what is happening. We are drifting into a world of 'adaptation apartheid.'

*Cape Town Archbishop Emeritus, Desmond Tutu*<sup>1</sup>

## *Abstract*

There is now little doubt that human beings will be forced to adapt to impacts of a warming world. Scant doubt also remains that it is the poorest people in the poorest countries who will, in large part, bear the burden of adapting to climate consequences they had almost no role in creating. Vast inequities in resources create a gulf between richer and poorer countries' abilities to adapt, creating what Desmond Tutu has described as "adaptation apartheid". The unknowns in climate change discourse, however, are the extent of climate change that will take place and the level of harm to global citizens. The first unknown will depend on the success of the international community's efforts to mitigate climate change by reducing greenhouse gas emissions, while the second unknown will depend in large part on the success of efforts to adapt to climate change by taking proactive or reactive steps to safeguard human lives and wellbeing. Although human rights have been increasingly brought to bear to address the challenge of climate change, thus far analyses linking human rights and climate change have focused primarily on mitigation, giving short shrift to adaptation. Practitioners and commentators have

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<sup>1</sup> UNDP (2007:47–48).

recognised the challenges of applying human rights law to the global, management-based problem of mitigation because legal duties only extend within territorial boundaries to state actors and because it is difficult to tie a particular government's actions or inaction to a given harm. But human rights law can and should be a practical tool to address climate change adaptation, which can take place at the state or community level. Although the largest emitting countries should be held normatively accountable for the bulk of climate change response, all states have a responsibility for their adaptation decisions, particularly as sizeable adaptation funding starts flowing to developing countries. At the most basic level, states should adapt to the maximum of their available resources and not engage in discriminatory adaptation practices. In turn, the unique characteristics of adaptation make it an optimal candidate for a human rights approach. Consequently, governments and communities should use human rights principles to inform adaptation project selection and implementation.

### *A. Introduction*

There is now little doubt that human beings will be forced to adapt to the impacts of a warming world. There is also little doubt that the poorest people in the poorest countries will bear most of the burden of adapting to climate consequences they had almost no role in creating.<sup>2</sup> As the United Nations Development Programme (UNDP) has explained, “In the Netherlands, people are investing in homes that can float on water. The Swiss Alpine ski industry is investing in artificial snow-making machines,” but “[i]n the Horn of Africa, ‘adaptation’ means that women and young girls walk further to collect water”.<sup>3</sup> In the Ganges and Mekong Deltas, “people are erecting bamboo flood shelters on stilts” and “planting mangroves to protect themselves against storm surges”. A final adaptation strategy in the Mekong? “[W]omen and children are being taught to swim.”<sup>4</sup>

Despite these sobering realities, the question of whether climate change implicates human rights law at all has been relatively unexplored until re-

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2 IPCC (2007a:19).

3 UNDP (2007:13).

4 (ibid.).

cently.<sup>5</sup> In 2007, for example, the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) – the primary report from the United Nations-chartered body responsible for reviewing and assessing information on climate change – scarcely mentioned human rights in nearly 3,000 pages of analysis.<sup>6</sup> However, multiple actors have begun to close this analytical gap: small island states and indigenous populations have claimed in a variety of international fora that climate change has threatened the human rights of their people;<sup>7</sup> an increasing number of academic commentators have worked to explain how climate change issues implicate human rights law;<sup>8</sup> and in 2009, the Office of the High Commissioner for Human Rights (OHCHR) issued the first UN report addressing the links between climate change and human rights.<sup>9</sup>

The recognition that climate change implicates human rights is significant because it provides a tangible legal framework for analysing state actions that lead to climate change. Indeed, because the primary blame for climate change lies with those developed states that have caused the problem,<sup>10</sup> and because human rights analyses are typically centred on state action, human rights provides a lens through which to analyse the culpability of developed countries.

Analysing climate change through a human rights lens is also appropriate because in the worst-case scenario, climate change spells human catastrophe – rising seas, the spread of disease, and ecosystem collapse – particularly for the most vulnerable persons in the global community. Human rights analyses can frame proactive strategies to try to preempt human harm, as well as to respond to such catastrophic events *ex post facto*.

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5 Of course, climate change itself does not violate human rights. As this article explains, human rights law only holds states accountable for violations of human rights through their action or inaction.

6 See IPCC (2007b, c and d); International Council on Human Rights Policy (2008:3).

7 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, 7 December 2005, available at <http://www.inuitcircumpolar.com/files/uploads/icc-files/FINALPetitionICC.pdf>, last accessed 4 October 2012; Republic of the Maldives (2008); see also Knox (2009c:479f.).

8 See e.g. Hunter (2009:332); Knox (2009a:168).

9 See OHCHR (2009:5).

10 Texas (population 23 million) emits more carbon dioxide than all of sub-Saharan Africa (population 720 million), UNDP (2007:43).

So far, however, discussions of climate change and human rights have largely focused on issues such as the international mechanisms for reducing greenhouse gas (GHG) emissions,<sup>11</sup> climate justice and state interest in such reductions,<sup>12</sup> and impacts on communities that are likely to be entirely destroyed or forced to resettle.<sup>13</sup> Indeed, in this rights-focused discourse, *mitigation* – or reducing GHG emissions to reduce the extent of climate change – has largely taken centre stage. Human rights commentators have expended significantly less effort analysing the legal framework for, or implications of, the process of *adaptation* to climate change – in other words, responding to actual or expected human and environmental consequences of a changing climate to minimise the harm from such change.<sup>14</sup> In the coming years, states and communities will have to adapt to irreversible climate change due to cumulative GHG emissions to date, as well as to additional climate change that will occur absent significant action by the international community. Thus, the recent discourse linking human rights and climate change generally has largely overlooked a major component of the human rights issues created by climate change. Moreover, discourse on adaptation in the legal arena has lagged significantly behind discussion of adaptation in other fields – biology, economics, and geography, to name but a few – in which robust debates regarding adaptation have been conducted for years.

As Archbishop Tutu and the UNDP have made clear, there are compelling reasons to explore the legal – not to mention the moral and ethical – implications of adaptation. This article therefore argues that as legal discourse evolves to analyse the human rights implications of climate change and the duties of states – duties oriented vertically, horizontally and diagonally – to protect and fulfil those rights, it is important both analytically and normatively to separate discussions of mitigation from those of adaptation. Although the distinction between policies and projects related to mitigation rather than adaptation is functional rather than formal, the two types of policies and projects implicate human rights differently.<sup>15</sup>

The human rights argument in this article is that the conventional, mitigation-centric account of the relationship between human rights and climate

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11 E.g. Streck (2009:67–75); Wiener (2009).

12 E.g. Freeman & Guzman (2009); Sunstein (2008).

13 E.g. Docherty & Giannini (2009).

14 Articles primarily devoted to climate change adaptation have appeared in the literature only very recently. See e.g. Camacho (2009); Ruhl (2010); Ruhl (2011).

15 For a more detailed discussion of these concepts, see *infra* Section B.II.

change – which applies a rigid human rights framework to the management-based problem of climate change – is, even if normatively desirable, akin to fitting a square peg in a round hole. Such management-based problems frequently involve technical experts, policy analysts and policymakers, who collectively negotiate and design long-term, coordinated solutions to a particular problem; in the case of climate change, these solutions require coordinated action at the international level to regulate public actors and the private sector alike.<sup>16</sup> But although the human rights account of climate change has been riddled with conceptual tensions in the mitigation context (because climate change is unlikely to be stopped or fully mitigated), a human rights approach is far more able to address adaptation.<sup>17</sup> The prevailing mitigation-based approaches are not ideally suited to the climate change problem because they contain a rigid state actor requirement and because they lack a multiscalar approach – which considers actors at each level from international down to community – necessary to address climate change.<sup>18</sup>

In turn, human rights may be a powerful tool for helping to organise and unify adaptation efforts. Moreover, such policies can better moderate – if not avoid altogether – the growing threat of “adaptation apartheid”.<sup>19</sup> Careful consideration of adaptation is thus a critical step in addressing the human effects of climate change. Despite a burgeoning and important body of literature that links human rights and climate change broadly,<sup>20</sup> many scholars have given insufficient weight to the mitigation/adaptation distinction.<sup>21</sup> This article provides a detailed discussion of why a human rights approach to adaptation is less conceptually problematic than a human rights approach to mitigation (or to climate change more generally). It also presents one of the first in-depth analyses of what such a human rights approach to adaptation will require.

The article proceeds in four parts. Section B summarises the challenge that climate change poses to people and communities, particularly those that are vulnerable, as well as the recent history of the theory, policies and

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16 Hunter (2009:339).

17 See *infra* Section B.III.

18 See *infra* Section B.II.

19 See *infra* Section C.I.

20 See e.g. Hunter (2009:332); Knox (2009a:168).

21 See e.g. Boyd (2011:462); Badrinarayana (2010:288); Carlson (2009:46–47 and 52); Joffe (2009:272–275); Kass (2009:137–139); Limon (2009:440); Tsosie (2009:202); Ackerly & Vandenberg (2008:555); Atapattu (2008:39); Koivurova (2007); Sinden (2007:263–270); Harris (2006:318 and 345).

projects of climate change adaptation. Section C moves to a discussion of the linkages between climate change and human rights, elucidating the potential of human rights as a tool to mobilise action in response to climate change. Section D examines the application of human rights law to adaptation. It contends that adaptation fits more easily with the rigid state-actor and causation requirements of human rights law than does mitigation, and that a human rights approach is especially well-suited for considering adaptation. Finally, Section E examines the implications of incorporating human rights law into the law and policy of adaptation.

### *B. Adapting to Climate Change: The Current Landscape*

For decades, political efforts to address climate change focused exclusively on efforts to ‘mitigate’ the phenomenon – to slow, stop, or reverse climate change by reducing the GHG emissions that cause it. Mitigation efforts have typically taken place at the international and state levels and have been aimed at lessening the necessary conditions for climate change. However, as we explain, the consensus is now that human populations will have to do more than *mitigate* climate change; they also must *adapt* to the effects of climate change – primarily global warming and the many expected adverse effects of that change. ‘Adaptation’ thus entails designing and instituting policies and programmes to respond to the inevitable effects of climate change.<sup>22</sup> Whereas mitigation centres on shaping human behaviour to minimise the *level* and *cause* of climate change (namely GHG emissions), adaptation efforts rely upon the ability of species, ecosystems, and socio-ecological systems to respond to ongoing alterations in climate conditions and to reduce the *effects* of climate change.<sup>23</sup>

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22 IPCC (2007c:6).

23 Craig (2010:21); see also ICHRP (2008:21). “‘Adaptation’ refers to actions taken to adjust lives and livelihoods to the new conditions brought about by warming temperatures and associated climate changes.”; OHCHR (2009:6) “Adaptation aims to strengthen the capacity of societies and ecosystems to cope with and adapt to climate change risks and impacts.”.

## I. The Challenge of Climate Change

Physicist Niels Bohr famously proclaimed, “Prediction is very difficult, especially if it’s about the future.”<sup>24</sup> Bohr’s cautionary statement is important to heed in discussions about climate change. The scientific consensus<sup>25</sup> is that over the coming decades climate change will cause a steady increase in human exposure to serious climate events such as droughts, floods and storms, with extreme weather events becoming more frequent and more intense.<sup>26</sup>

The magnitude of climate change and its impacts will depend in large part on the increasing concentrations of GHGs in the atmosphere. Atmospheric concentrations of CO<sub>2</sub> are increasing by approximately 1.9 parts per million (ppm) every year, whereas in the 8,000 years prior to industrialisation, atmospheric CO<sub>2</sub> increased by a total of 20 ppm.<sup>27</sup> If emissions continue to rise consistently with the current trend, there will be an increase not only in total emissions but also in the rate at which emissions are increasing, perhaps by 4–5 ppm per year by 2035 – almost double the current rate.<sup>28</sup>

Low-income countries worldwide have one-third of the world’s residents and yet contribute only 7% of total global emissions; wealthy countries, by contrast, have contributed 70% of all CO<sub>2</sub> emitted since the dawn of the industrial era.<sup>29</sup> In all likelihood, emission levels will continue to rise for the foreseeable future as emerging economies engage in rigorous development activities.

Scientific consensus overwhelmingly supports the link between emissions and rising global temperatures. Research reveals that temperatures in the past 50 years are probably the highest they have been in any similar length of time since at least the eighth century.<sup>30</sup> According to the IPCC’s estimates, baseline temperatures around the world are already around 1.33 degrees

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24 Orrell (2009).

25 This article does not engage the debates surrounding the existence of human-induced climate change. However, a brief background in the implications of climate change is necessary to understand the interplay between climate change adaptation and human rights.

26 UNDP (2007:90).

27 See IPCC (2007b:131 and 460).

28 UNDP (2007:34).

29 (ibid.:41–42).

30 (ibid.:31).

Fahrenheit higher than in earlier years and will continue to increase, even with aggressive mitigation efforts.<sup>31</sup>

The expected change in the climate will have a variety of consequences for human health, security and stability. The consequences may be most pronounced for poorer developing countries because of their geographic characteristics (in many cases), their low incomes, and their greater reliance on climate-sensitive sectors such as agriculture. The degree to which climate change will increase natural disasters is somewhat less clear, though the general prognosis is poor. Some of the most acute challenges of climate change will fall on coastal and island nations, which are likely to have to respond to sea-level rise, erosion, damage to their fishing and tourism economies, and salt water encroachment on fresh water, all with a deleterious effect on livelihoods and living conditions.<sup>32</sup>

Other consequences are predicted to include an increase in large storms threatening human security and an increase in ground instability in mountain and permafrost regions.<sup>33</sup> Finally, climate change is also likely to lead to increasing regional and intrastate conflicts and instabilities, with concomitant expense to government and private industry, as well as new, large-scale problems such as ‘climate refugees’ – i.e. refugees displaced from their homes by climate change.<sup>34</sup>

The descriptions above are primarily environmental accounts of the effects of unmitigated GHG emissions. In large part, the actual toll of climate change on human beings will depend on how communities are able to adapt to the changes already underway. There is no clear line separating ‘safe’ climate change from ‘dangerous’ climate change. Scientific consensus has coalesced around the idea that the risk of massive human development setbacks increases substantially beyond 3.6 degrees Fahrenheit of temperature change over historic levels, a degree of change which current emissions trajectories will well exceed.<sup>35</sup> Adapting to such changes will be a significant and important endeavour.

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31 IPCC (2007a:5–7).

32 Knox (2009c:479f.).

33 IPCC (2007a:2).

34 See e.g. Docherty & Giannini (2009:349) advocating for a new international treaty on climate refugees.

35 UNDP (2007:6–7).



## II. *Adaptation versus Mitigation in Climate Change Response*

Although the international community has increasingly recognised that mitigating climate change is a distinct endeavour from adapting to climate change, human rights practitioners, scholars and policymakers have yet to capture fully the legal relevance of the distinctions between the two activities. To date, legal scholars and practitioners analysing climate change have generally discussed mitigation, whether they have considered actions the United States should take to address climate change,<sup>36</sup> or international responses to climate change such as the Kyoto Protocol.<sup>37</sup> Scholars have not fully explored the disproportionate effects of adaptation on marginalised persons and groups and the related human rights implications. This article elucidates unique features of each, before examining the relationship between climate change adaptation and human rights law.

### 1. *Distinguishing Adaptation from Mitigation*

Although both mitigation and adaptation are critical components of a comprehensive climate change response, adapting to climate change is, in certain respects, more complex than mitigating it. Despite the incredible difficulty and complexity of reducing GHG emissions, the foundational regulatory mechanisms available to accomplish the goal are somewhat limited in number, essentially consisting of cap-and-trade programmes, carbon taxes, mandated changes in manufacturing processes, or some combination of these.<sup>38</sup> Climate change adaptation law, by contrast, will involve complexity at another order of magnitude.<sup>39</sup> As such, adaptation approaches must be flexible and, as the name itself suggests, adaptive.<sup>40</sup> Moreover, those who apply human rights approaches to adaptation face the complex task of connecting adaptation strategies with a narrow and limited pool of human rights.

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36 See e.g. Freeman & Guzman (2009); Johnston (2008).

37 The Kyoto Protocol was not silent on adaptation. See Kyoto Protocol to the United Nations Framework Convention on Climate Change Article XII 8, 10 December 1997, UN Doc. FCCC/CP/1997/L.7/Add.1 (1998), reprinted in 37 I.L.M. 22 (1998).

38 See Craig (2010:28–31).

39 (ibid.:29).

40 (ibid.) noting that “adaptation law will have to cope with multiple layers of governmental interest”.

To begin, there are a number of features that distinguish adaptation practices from mitigation practices. First, adaptation and mitigation practices are generally undertaken on different geographic scales, with mitigation practices more global or continental in nature than adaptation practices, which often involve localised actors. Non-governmental entities such as bilateral and multilateral donors also play a critical role in adaptation funding. The localised nature of adaptation can be seen in the workings of the Adaptation Fund of the United Nations Framework Convention on Climate Change. Its funding and governance structure integrally involve developing countries.<sup>41</sup>

Second, different levels of government play different roles in the two facets of climate change, with mitigation engaging international and national governance structures and adaptation engaging these structures together with regional, state, tribal, aboriginal and local structures. The international approach to mitigation has primarily followed the management approach used for other complex environmental problems.<sup>42</sup> This style is reflected in the growth, focus and character of the climate change secretariat in Bonn, Germany, which comprises a collection of technical experts, climate scientists, and policy analysts, who together form a large-scale bureau for setting and managing the foundation of the market for carbon.<sup>43</sup> The secretariat's primary role is to address mitigation, but adaptation is likely to be addressed in a less centralised manner.

In the long-term, there might be a need for international-scale adaptation projects, but, for the foreseeable future, adaptation will consist of community-based projects aimed at specific local interventions. Finally, mitigation and adaptation have different relationships to the concept of development. Although technologies and policies are in the pipeline to reverse the positive correlation between social and economic development and GHG emissions, the trend has so far been a constant in the history of industrialising nations.<sup>44</sup> Thus, mitigation typically runs at cross-purposes to development—no country has developed without significant reliance on processes that emit GHGs.

Adaptation practices, on the other hand, have many similarities to development work that is already underway. Although adaptation practices will often require outlays of large sums of money for nonproductive assets, the

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41 Müller (2010:34–35).

42 Hunter (2009:339).

43 (ibid.:339–340).

44 Metz & Kok (2008:99).

costs of adaptive practices are likely to outweigh the costs of harm from failure to adapt. This counsels international and financial coordination of development and adaptation programmes and funding, as well as collective planning for local-level project implementation. In other words, “pro-poor adaptation strategies cannot be developed in isolation from wider policies aimed at reducing poverty and overcoming inequality”.<sup>45</sup>

## *2. Limitations of Separating Adaption from Mitigation*

Three additional points about the distinction between adaptation and mitigation are worth making. First, the distinctions between adaptation practices and mitigation practices described above are, to some degree, overly generalised. For example, individuals may engage in personal mitigation efforts, and adaptation finance often occurs on an international scale. Second, the framing of climate change efforts as either ‘adaptation’ practices or ‘mitigation’ practices is meant to be functional, not formal. This article does not seek to label a particular project as one targeted at either ‘mitigation’ or at ‘adaptation.’ Rather, the claim is that adaptation practices, as compared to mitigation practices, have the potential to infringe on particular rights in particular ways, implicating unique and corresponding human rights duties. Third, despite the distinctive traits of adaptation and mitigation, there are a number of areas in which it is productive to apply a human rights lens to both adaptation and mitigation. As just one example, human rights approaches do not permit pure inaction or maintenance of the status quo.<sup>46</sup> Nevertheless, the thesis of this article retains force despite these overlaps, because there are several reasons why a human rights framework is more compelling when applied to adaptation than when applied to mitigation.

## *III. Adaptation to Climate Change: International Efforts Underway*

With these distinctions between mitigation and adaptation in mind, this section briefly describes international efforts to finance adaptation, as well as local projects needed – and currently underway – to adapt to climate change.

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45 UNDP (2007:176).

46 See e.g. Article 2 of the 1966 International Covenant on Economic, Social, and Cultural Rights (ICESCR).

Such an analysis is particularly important in light of the realisation that the costs of adapting to large-scale climate change will be significant. In Africa, for example, towards the end of the 21st century, the cost of adaptation across the continent could amount to 5 to 10% of GDP.<sup>47</sup>

The IPCC describes projects to address the impacts of climate change – for example the building of sea walls – as “adaptation practices”, a term used throughout this article.<sup>48</sup> Adaptation practices can anticipate an expected, but as yet unrealised, level of climate change (proactive adaptation practices), or they can respond to an already-realised level of climate change that is affecting human communities or biological or geographic systems (reactive adaptation practices). Examples of proactive projects are crop and livelihood diversification, famine early-warning systems, and water storage creation projects.<sup>49</sup> Reactive adaptation practices include emergency response, post-disaster recovery, and relocation efforts.<sup>50</sup>

The range of adaptation practices is thus extremely broad, and an individual’s or community’s ability to engage in adaptation practices varies widely. The capability to engage in an adaptive response is often discussed in terms of ‘adaptive capacity,’ which the IPCC defines as “the ability or potential of a system to respond successfully to climate variability and change, and includes adjustments in both behaviour and in resources and technologies”.<sup>51</sup> Structurally, adaptation has played an increasingly prominent role in international negotiations and agreements on climate change. Several of the provisions of the United Nations Framework Convention on Climate Change (UNFCCC) – the international treaty resulting from the 1992 United Nations Conference on Environment and Development – address adaptation. Adaptation has become a prominent issue at each Conference of the Parties (COP), the annual meeting among the UNFCCC members that has taken place since the UNFCCC entered into force in 1994. In the 15 years since COP3, parties have made significant progress in advancing adaptation efforts among industrialised nations (known as Annex I countries) and non-Annex I developing countries. At COP17 in Durban, the parties launched the Adaptation Committee and the Green Climate Fund, which oversees some of the \$100 billion that developed countries have promised

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47 IPCC (2007a:11).

48 IPCC (2007c:720).

49 (*ibid.*:721).

50 (*ibid.*).

51 (*ibid.*:727).

to make available by 2020, to cut GHG emissions and adapt to climate change.<sup>52</sup> The main funders behind the current adaptation funds are international donors whose donations are channelled through bilateral agencies or multilateral institutions.<sup>53</sup>

While local and piecemeal adaptation practices have been in progress for a number of years, adaptation projects supported by the funds mentioned above have been implemented only quite recently. For example, in June 2010 the Adaptation Fund board approved the first proposals for “concrete adaptation projects”, totalling \$21.8 million. The Adaptation Fund projects complement other adaptation projects sponsored by various financing mechanisms and organisations.

### *C. Climate Change and Human Rights*

With an ever-increasing body of evidence on the mounting and discriminatory toll of climate change, private and public actors have worked in recent years to bring insights from human rights law to bear on the problem of climate change. Such a human rights framework holds particular normative appeal, given that persons already vulnerable to human rights infringements based on factors such as poverty, geography, gender, ethnicity, disability and age are also likely to suffer the most deleterious climate change consequences.

The description of how adaptation implicates human rights builds from the wealth of scholarship that has connected environmental protection to human rights.<sup>54</sup> The core international human rights treaties<sup>55</sup> do not provide

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52 See UN Framework Convention on Climate Change, Durban, South Africa, 18 November 2011, Report of the Transitional Committee for the Design of the Green Climate Fund, Note by the Co-Chairs of the Transitional Committee, UN Doc. FCC/CP/2011/6, available at [http://unfccc.int/files/meetings/durban\\_nov\\_2011/decisions/application/pdf/cop17\\_gcf.pdf](http://unfccc.int/files/meetings/durban_nov_2011/decisions/application/pdf/cop17_gcf.pdf), last accessed 4 October 2012.

53 World Bank (2010:262).

54 McInerney-Lankford (2009:431f.); see Article 24 of the 1989 UN Convention on the Rights of the Child (CRC), signed but not yet ratified by the United States.

55 There are nine core international human rights treaties: (i) International Convention on the Elimination of All Forms of Racial Discrimination (1965); (ii) ICESCR, *supra* note 46; (iii) International Covenant on Civil and Political Rights (1966); (iv) Convention on the Elimination of All Forms of Discrimination Against Women (1981); (v) Convention against Torture and Other Cruel, Inhuman or Degrading Treatment

for an express right to a safe and healthy environment.<sup>56</sup> Nonetheless, there is international consensus that a clean and healthy environment can impact persons' rights. Moreover, the UN human rights treaty bodies all recognise an intrinsic connection between protecting the environment and fulfilling a wide spectrum of human rights, such as the rights to life, health, water, food and housing.<sup>57</sup> Aside from their normative appeal in this context, human rights have prompted action in the environmental protection arena and, more recently, in the climate change arena.

### *I. Human Rights Implicated by the Effects of Climate Change*

As set forth above, this article outlines the exacting and unequivocal human toll as a result of climate change: disease, food shortages, water scarcity, and displacement of persons from their homes and communities, as well as the potential loss of life, dignity, personhood and self-determination.<sup>58</sup> International human rights law speaks to such harms, bestowing on global citizens the legal rights in this respect, and on nation-states the legal duties to fulfil these rights. The rights to life, health, water, food, housing and self-determination, for example, are merely a few of the implicated rights.<sup>59</sup>

The connection between climate change and human rights has been increasingly acknowledged in diplomatic, nongovernmental and academic ef-

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or Punishment (1984); (vi) CRC, *supra* note 54; (vii) International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (1990); (viii) Convention on the Rights of Persons with Disabilities (2006); and (ix) International Convention for the Protection of All Persons from Enforced Disappearance (2006); see De Schutter (2010:18–19).

56 OHCHR (2009:18).

57 United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, 3–14 June 1992, Rio Declaration on Environment and Development, UN Doc. A/CONF.151/26/Rev. 1 (Vol. I), Annex I (12 August 1992) Principle 1. Note that certain regional human rights instruments, such as the African Charter on Human and Peoples' Rights and the San Salvador Protocol to the American Convention on Human Rights, do recognise the right to live in a healthy or satisfactory environment.

58 See *supra* Section I.A.

59 For a more extensive discussion of these various rights infringements, see the extended version of this article, Hall & Weiss (2012).

forts analysing the effects of a changing climate.<sup>60</sup> For example, in March 2008, the UN Human Rights Council adopted Resolution 7/23, which was the first UN resolution to recognise that climate change poses an immediate threat to people and communities around the world and has significant implications for the enjoyment of human rights.<sup>61</sup> The resolution called on the OHCHR to prepare a “detailed analytical study on the relationship between climate change and human rights”.<sup>62</sup> The OHCHR Report made bold pronouncements about the multiple human rights implications of climate change.<sup>63</sup>

Yet, despite its many triumphs and breakthroughs, the OHCHR Report, like most analyses of climate change to date, provided only a cursory discussion of the ways in which adaptation to climate change turn impacts on human rights. It also failed to explore deeply how climate change adaptation raises significant issues of equity.

## *II. Adaptation Apartheid: Climate Change in the Developing World*

Adaptation – much like other persistent issues in environmental justice<sup>64</sup> – will often be an intensely local and even personal phenomenon. Within even the poorest countries, there will be elites who possess the resources to adapt; of course, there will also be individuals in even the richest societies who have insufficient capacity to adapt to climate change.<sup>65</sup> Yet, generally speaking, adaptive capacity tends to correlate with general capacity on regional, national, local, group and individual levels. In this respect, the consequences of climate change for human health, security and stability are particularly grave for developing countries and their residents.<sup>66</sup>

Residents of already vulnerable regions and communities confront a range of stresses that affect their sensitivity to climate change events, as well as

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60 Male’ Declaration on the Human Dimension of Global Climate Change, adopted 14 November 2007, [http://www.ciel.org/Publications/Male\\_Declaration\\_Nov\\_07.pdf](http://www.ciel.org/Publications/Male_Declaration_Nov_07.pdf), last accessed 4 October 2012; Knox (2009c:477).

61 UN Human Rights Council Resolution 7/23, UN Doc. A/HRC/7/78, 28 March 2008.

62 (ibid.).

63 (ibid.); see also ICHRP (2008:1).

64 See Hawken (2007:256).

65 IPCC (2007c:719).

66 See Davies et al. (2009).

their ability to adapt.<sup>67</sup> These stresses include poverty, inadequate access to basic resources, food and water insecurity, high incidences of diseases such as HIV/AIDS, and conflict.<sup>68</sup> Within a particular region, there is significant risk of “adaptation apartheid” for groups with diminished adaptive capacities. Empirical work has demonstrated that in addition to disparities in climate change vulnerability, access to resources that correlate with adaptive capacity can be distributed unevenly along the lines of age, class, ethnicity, gender and religion.<sup>69</sup> The analysis below focuses on sub-Saharan Africa and its women, providing a cross-cutting lens into how climate change profoundly threatens human rights in certain regions and of certain groups and individuals, creating an ever-present risk of adaptation apartheid. Other regions, groups, and peoples already suffering from discrimination in the fulfilment of their human rights and who stand to suffer even more pronounced consequences resulting from climate change would have been equally appropriate for detailed treatment.<sup>70</sup>

As one particularly poignant example of disparate adaptive capacity at the regional level, sub-Saharan Africa already confronts significant consequences for human beings from climate change. Sub-Saharan Africa produces less than 4% of global GHG emissions; yet, the region already experiences effects of changing weather and rainfall patterns, food and water scarcity, and internal displacement of persons, among other impacts (and can expect more deleterious consequences in years to come).<sup>71</sup> Droughts have had especially disastrous consequences for residents of the region; and, by one estimate, additional climate alteration may put another 75 to 250 million persons’ lives at risk.<sup>72</sup> Moreover, areas in sub-Saharan Africa already prone to floods may experience more frequent flooding due to changing rainfall patterns.<sup>73</sup> The increased variability in climate will, in turn, lower regional food production. Climate change “could mean disaster on a continent where 70 per cent of workers are employed on farms and farming is

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67 See IPCC (2007c:19).

68 (*ibid.*).

69 See OHCHR (2007).

70 The Pacific islands and Caribbean islands provide two more powerful examples of regions likely to be hardest hit by climate change, amplifying their already relatively low levels of development. See Institute of Development Studies (2006:5.1–5.2.).

71 See Fleshman (2007).

72 (*ibid.*).

73 (*ibid.*).



often the engine for national economies – generating export earnings and inexpensive food.”<sup>74</sup>

Significantly, residents of the sub-Saharan region have diminished adaptive capacity to respond to such shocks. They often have crops that are less diverse and resilient, a heavy reliance on rain-fed irrigation, and limited money and expertise to modify their agricultural techniques to cope with damaging environmental changes.<sup>75</sup> The consequences for women will be particularly dramatic. Although the nature of women’s vulnerability varies considerably, existing patterns of inequality and vulnerability will be exacerbated by the effects of climate change.<sup>76</sup> Many poor women already suffer from restrictions on their rights, access to resources, mobility, and voice in making decisions that affect their lives.<sup>77</sup> As just one example, women in Africa are the main producers of climate-sensitive staple crops.<sup>78</sup> Women are also often the last to receive food and other household resources. Hence, food shortages not only infringe women’s right to food, but climate change-induced food shortages will moreover increase women’s daily workload as women struggle to ensure food security. As women’s daily domestic workloads increase, they will have diminished opportunities for educational, economic, social and political engagement. In this sense, climate change magnifies the range of various human rights infringements to which women are already vulnerable. We briefly highlight these two lenses – a geographic lens and a gender lens – to show the potentially disproportionate impacts of climate change on certain groups of individuals, who are also likely to be least adaptive to change. Effective adaptive policies must take into account regional and group disparities. Adaptive policies that ignore these realities – by, for example, distributing adaptation funding exclusively to male leaders in a community – are likely only to reinforce some of the disparities in adaptive capacity.<sup>79</sup>

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74 (ibid.).

75 See Burroughs (2001:132); Paavola (2006:201f.).

76 See UNDP (2008:iii).

77 (ibid.).

78 (ibid.).

79 See generally IPCC (2007c:731), explaining that “[s]ome adaptations that address changing economic and social conditions may increase vulnerability to climate change, just as adaptations to climate change may increase vulnerabilities to other changes”.

### *III. Applying Human Rights to Climate Change: Theory and Practical Challenges*

In light of the disproportionate impact of climate change on vulnerable groups such as women, human rights can serve as a pragmatic and powerful tool to vindicate rights. After all, human rights analysis focuses particularly on the most disadvantaged persons and their needs. As a legal and practical matter, human rights can hold state actors accountable. Human rights are legal rights codified in a range of legal instruments at the international, regional or national level. In the case of the United Nations international human rights treaties, these instruments establish legal duties of states that are enforceable by individuals, groups of individuals, and their representatives before international tribunals.<sup>80</sup>

There are several prominent reasons why it is normatively and legally desirable to apply a human rights framework to climate change. First, climate change is an international problem with consequences affecting human beings that are likely to unfold on an international scale, and to require international solutions, making international law an appropriate means of promoting accountability. Second, climate change will result in infringements of human rights, so it makes normative sense to consider climate change via a human rights framework. Third, as a practical matter, human rights law provides a framework in which tribunals have a history of balancing human needs with limited government resources. Fourth, the human rights framework already includes tools for monitoring and enforcement. Fifth, human rights law may encourage coherence in adaptation policy, or international standards for adaptation practices at multiple levels.

Yet there are well-documented challenges to making human rights have practical significance in the lives of the persons they are meant to protect. There is widespread scepticism about the efficacy of human rights treaties and instruments.<sup>81</sup> Critics point to substantive and procedural weaknesses in human rights treaties that undermine their effectiveness, such as limitation clauses that allow governments to curtail or deny granting rights or freedoms on the basis of national security, public order, morality, and health.<sup>82</sup> State parties can further limit obligations under human rights instruments through

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80 See Knox (2009a:166).

81 See Woods (2010:70).

82 International Law Association Committee on International Human Rights Law and Practice (1996).

formal reservations – “a claim to exclude or to modify the legal effect of certain provisions of the treaty in their application to that state”.<sup>83</sup>

Next, most human rights treaties lack a rigorous enforcement regime. The success of the treaty body monitoring system depends upon a range of factors, including whether states submit adequate reports on time; whether the treaty body committee has sufficient time and expertise to review the report and question state representatives; and whether NGOs have access to information on the State’s fulfilment of human rights to submit to the committee members for consideration. In addition, the success of the treaty body monitoring system may also be affected by the quality of the treaty body committee’s concluding observations, the ability of the treaty body committee to follow up on inadequate reports, and the extent of media attention.<sup>84</sup> The process falters at many stages. An estimated 45 to 80% of state parties to six UN treaties have overdue reports.<sup>85</sup> Many treaty body committees have a massive backlog in processing overdue reports. By one estimate – if all overdue reports were submitted simultaneously to their respective treaty body committees – it would take the treaty bodies approximately eight years to process the backlog.<sup>86</sup> In addition to these concerns, other critics have worried that human rights law may be overly prescriptive, may establish a ‘lowest common denominator approach’ that trends towards the least progressive solutions to pressing problems, and may limit the space for creative, locally appropriate solutions.<sup>87</sup>

Further well-documented deficiencies exist when applying human rights law to climate change. First, there are evidentiary hurdles to establishing that particular acts or failure to act specifically caused a climate change injury. It is difficult to trace governments’ failure to mitigate to specific climate change injuries that those decisions have caused. Even establishing the existence and level of injury poses challenges, given that climate change harms are not always overt or recognisable.<sup>88</sup> As Marc Limon has argued, “even if responsibility and harm could be established, existing human rights law is concerned primarily with how a government treats its own citizens and oth-

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83 Bayefsky (undated).

84 International Law Association Committee on International Human Rights Law and Practice (1996).

85 (ibid.).

86 (ibid.).

87 See e.g. Simma (1983:494); Young (2008:147f.).

88 See Biber (2009:977f.).

ers living within its territory and under its jurisdiction.”<sup>89</sup> International human rights law was developed in the context of addressing harms that neither occur outside the responsible state’s borders nor cross interstate boundaries.<sup>90</sup>

Looking to international law, John Knox sees significant challenges in developing a framework to resolve this tension, although he points to the duty of states to cooperate as the best legal basis for “extending” human rights law to the actions or inactions of states with respect to climate change.<sup>91</sup> Yet Knox recognises that this is not necessarily a forceful basis on which to impose duties on a state.<sup>92</sup> Under international human rights law, legal duties are oriented vertically. States have the primary responsibility to protect persons within their boundaries. Beyond those boundaries, states may be unable or unwilling to fulfil broader obligations in responding to climate change: more significantly, one state could not effectively mitigate climate change alone given the cross-territorial, global nature of climate change.<sup>93</sup> In response, some commentators, with Knox prominently among them, have presented a way to conceive of human rights not ‘vertically’ but rather ‘diagonally’ – the rights are held by citizens of one state vis-à-vis governments of other states.<sup>94</sup> This conception would hold developed states responsible to persons in developing states who are suffering harms due to a failure to mitigate climate change.<sup>95</sup> As Kyung-wha Kang, deputy UN commissioner for Human Rights, stated in 2007, “any strategy to deal with climate change, whether in terms of adaptation or mitigation, must incorporate the consequences for humans, as individuals and communities, and the human rights framework is the most effective way to do so.”<sup>96</sup> Thus, as discussed in the next section, human rights law can effectively address climate change harms by beginning with the adaptation obligation.

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89 Limon (2009:458).

90 (*ibid.*).

91 (*ibid.*:168).

92 See Knox (2009a:213f.).

93 See e.g. Kolmannskog (2009).

94 See Knox, (2009b:101f.).

95 (*ibid.*:82f.).

96 Kang (2007).

#### *D. Adaptation through the Lens of Human Rights Law*

This section discusses how human rights can be applied to adaptation and the ways in which potential claimants could seek remedies for adaptation-related human rights violations. It proceeds on the assumption that it is normatively preferable to require developing states to adapt than to require that they mitigate harms that they did not cause; the latter would unfairly burden comparatively low-emitting developing states, and might be pointless, as successful mitigation cannot take place without concerted efforts from the highest-emitting states.

#### *I. The Role of Adaptation in the Human Rights/Climate Change Disconnect*

The heightened emphasis on mitigation in climate change discussions to date is not entirely problematic. Concentrating on the role of the largest GHG emitters may help motivate state actors to move against their political self-interest, or at least to incorporate massive, long-term externalities into a state's political calculus. Without such action, climate change will cause increasing harm. The primary responsibility, normatively, legally and financially, lies with the states that have caused the problem.

Yet developing countries will have to adapt to climate challenges. And all too often, under-resourced, ineffectual, or simply corrupt governments in the developing world have avoided delivering on human rights commitments to their citizens. Direct aid, capacity-building, and other efforts from developed countries play an important role in addressing these deficiencies, but individual state accountability for actions or inaction with respect to climate change is important as well.<sup>97</sup>

As governments make and institute policies and allocate resources to adapt to climate change, the legal community should apply – and reconsider – domestic and international legal frameworks to evaluate the resource-allocation decisions and other adaptive responses of states. As Limon put it: can developed countries really tell people in small island nations, for example, “that their human rights have not been violated because it is difficult to apportion responsibility”?<sup>98</sup> He argues that “[p]erhaps we must, but that is

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97 See e.g. Cameron (2009:13f.).

98 Limon (2009:468f.).

surely because the law is wrong, rather than because our instincts of fairness, equity, and justice are wrong”.<sup>99</sup>

## *II. Human Rights Law Applied to Adaptation: Establishing Liability and Accountability*

Although human rights law, at least as it is conventionally understood, does not neatly accommodate issues relating to climate change,<sup>100</sup> these deficiencies are at least partly cured when adaptation is separated from a broader discussion on climate change.

### *1. Liability of States for Adaptation-related Human Rights Violations*

As described earlier, human rights law, conventionally understood, provides no true (or at least no robust) liability or remedial framework for addressing the largely transnational causes and concomitant harms of climate change.<sup>101</sup> Yet, human rights law can and does provide a workable framework for approaching adaptation. As described above, adaptation decisions are likely to be made closer, in terms of geography and time, to those affected by the policies.<sup>102</sup>

A hypothetical case helps to illustrate how a government could be held accountable under a human rights framework for an adaptation-related claim. Over time, states will be faced with rising sea levels and increased flooding.<sup>103</sup> Suppose a government receives adaptation funding that it then squanders, despite warnings that a dam will fail, if not repaired, with the likely consequence of mass flooding to an adjacent low-lying subsistence farming community, and possible loss of life. Under the ‘progressive realisation’ doctrine surrounding socioeconomic rights, if a government has available resources but does not prioritise an action, and there is a breach of human rights as a result, one can make a colourable claim for government

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99 (ibid.:469).

100 See e.g. ICHRP (2008:3–6); Knox (2009a:165–168); Limon (2009:458); Posner (2007:1935–1938).

101 Limon (2009:458).

102 See *supra* note 41 and accompanying text.

103 UNDP (2007:90).

redress before an international or, in certain instances, a domestic tribunal.<sup>104</sup> States must act to the extent that their resources allow in order to fulfil socioeconomic rights progressively and continuously, and this legal doctrine can extend readily to state inaction towards adaptation.<sup>105</sup> As such, this *ex post* remedy, if robust in nature, might moderate government intransigence in the future.<sup>106</sup>

Complete inaction despite available funding, like discriminatory action, is simple to understand through a human rights perspective: it is not allowed. But middling government action to spend limited adaptation funding in a manner that neglects to implement effective adaptation projects has the potential to raise more nuanced challenges. Suppose, when confronted with the looming dam breach described above, the government decides to require the relocation of two small communities rather than the move of a large mining company that employs several hundred people across the country and contributes substantially to the country's tax base. The government implements a cursory programme for assuaging environmental threats to the soon-to-be-displaced community members – a small stipend for each family to cover the basic costs of relocating and finding new land elsewhere. Would a human rights approach permit such an exercise? It is unclear. As former Justice Albie Sachs from the Constitutional Court of South Africa has explained, balancing and apportionment are inherent in the exercise of progressively realising rights in resource-constrained settings.<sup>107</sup> One may easily identify certain procedural deficiencies in this scenario – for example, lack of participation – suggesting that the government's approach falls short of what human rights law requires.

Further, one could imagine how a seemingly fair cash payment could fail in other ways. For example, cultural norms could require women to give cash to men in the community, and the women could effectively be left even more vulnerable, without housing or with other unmet needs. Human rights

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104 OHCHR (2009:75).

105 Article 2 (1) ICESCR.

106 Of course, a different complication would arise if the same state had not received adaptation funding and the same dam had failed, inundating the same low-lying farming community. In such an altered hypothetical, the “to the maximum of its available resources” savings clause of the ICESCR may absolve the state of some human rights obligations, but it is more challenging to determine what the state's obligations would be as to nonderogable rights, such as the right to life. See UN Human Rights Committee (1984).

107 See World Bank Institute (2011:6–7).

approaches pay special attention to the needs of a state's most vulnerable citizens. At times there may be no clear 'best' human rights approach, and human rights may point to a 'second best' alternative (or a range of alternatives) that optimises outcomes, given a variety of pragmatic constraints. Similarly, adaptation-related claims could also raise issues concerning how to resolve conflicts when a state's existing human rights obligations to its citizens clash with issues related to climate change adaptation. In developing nations, one would expect that the overlap could be considerable.

## *2. Accountability of States for Adaptation-related Human Rights Violations*

Liability is a legal question; accountability is a more normative consideration. Liability describes whether individuals or communities can prevail on human rights charges against states arising from climate change-related impacts. Causation is generally a mandatory element of establishing liability.<sup>108</sup> By contrast, accountability questions ask whether the individuals or communities should be able to bring human rights claims arising from climate change-related injuries.

Commentators disagree about the degree to which developing countries should be held accountable for human rights violations due to climate change.<sup>109</sup> Some of the difficulty in resolving this question can be removed by segregating discussions of mitigation from those of adaptation. With mitigation, there are significant equitable issues in holding developing countries accountable for reducing emissions. Yet, developing states should be held accountable for human rights violations stemming from adaptation decisions because, fair or not, climate change imposes duties on low-emitting states, particularly those that have committed to advancing socioeconomic rights.<sup>110</sup> As a matter of priority, states must seek to protect groups in society who are in a particularly vulnerable situation and must satisfy core obligations.<sup>111</sup> Particularly if developed states begin providing significant financial assistance to developing states, some accountability for that funding seems

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108 See OHCHR (2009:n.24).

109 See *infra* notes 110–112 and accompanying text.

110 See e.g. South African Constitution (1996) Articles 26–29.

111 OHCHR (2009:25).



both practically necessary and normatively desirable.<sup>112</sup> A human rights framework provides one tool to enable community members to insist upon government accountability in the expenditure of these funds.

By distinguishing adaptation from mitigation more rigorously, Annex I countries may be held responsible for mitigation, while all countries, including non-industrialised countries, are held responsible for adaptation. In other words, it may be normatively desirable to hold only, or mostly, Annex I states responsible for mitigation, while asking comparatively more of developing countries with respect to adaptation.<sup>113</sup> The accountability of large emitting states for human rights violations is not, however, the primary focus of this article. Other authors have addressed that question, and there plainly are compelling reasons to find large emitters responsible for much of the climate change response. Sidestepping such a discussion in this article is not to absolve large emitters for a problem that is almost entirely of their making: that would be irresponsible, unfair and misguided. Yet it is important to consider accountability for reducing emissions and adapting to the impact of climate change separately because of the vertical and diagonal legal relationships discussed above.

### *III. Adaptation and Human Rights Remedies*

Even if it is possible to establish causation, there are still hurdles to vindicating a particular human right. The problem of remedying identified human rights violations is hardly new. One of the most powerful examples demonstrating the importance of remedies for human rights violations is the case of Irene Grootboom. In *Government of the Republic of South Africa v Grootboom*, the Constitutional Court of South Africa affirmed the government's constitutional responsibility to respect the right to housing and to enact and fund policies designed to realise that right.<sup>114</sup> The decision was hailed around the world as the leading socioeconomic rights decision from any nation's high court.<sup>115</sup> But to much less notice, in August 2008, eight years after Ms

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112 See Transparency International (2011), highlighting the need for transparency and accountability in the delivery and spending of funds.

113 See Birdsall (2012:20–22).

114 2000 (1) SA 46 (CC) (South Africa).

115 See e.g. Kende (2003:137); Liebenberg (2001).

Grootboom vindicated her right in her nation's highest court, she died in her forties, "homeless and penniless".<sup>116</sup>

As difficult as it is to achieve a human rights remedy, it probably will be even harder in cases arising out of claims related to climate change. There is not a realistic way for parties to seek remedies for their claims even if they can establish causation and, more broadly, liability. In turn, where remedies are not available, the very existence of the right is called into question.

Differentiating the subset of adaptation claims from the broader group of climate change claims may lessen this concern. Even if causal links and liability are connected to narrower geographic, governmental and temporal ranges in the context of adaptation, perhaps national-level litigation is not mostly useless. This is especially likely in countries such as South Africa or India that include socioeconomic rights in their constitutions, making it possible to bring individual claims based on alleged rights violations.<sup>117</sup>

Tribunals presented with adaptation-related human rights claims might also have flexibility to fashion creative remedies. A tribunal could, perhaps, recognise that a state has limited resources to comply with an order that would completely remedy an adaptation-related human rights claim. It could then order a progressive injunction commanding the relevant government authority to review regularly and modify its National Adaptation Programme of Action in a certain way, in order to prioritise the problem underlying the claim before the tribunal.

Finally, recent developments in socioeconomic rights may facilitate adaptation-based human rights claims at the international level. The Optional Protocol to the International Covenant on Economic, Social and Cultural Rights recently entered into force and may be a promising avenue by which to bring climate change-related claims linking adaptation and human rights.<sup>118</sup> Tribunals, in adjudicating individual human rights complaints, can develop a common law regarding environmental protection and adaptation.

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116 Joubert (2008).

117 See e.g. *Khosa v Minister of Social Development* 2004 (6) BCLR 569 (CC) (South Africa); *People's Union for Civil Liberties v Union of India*, Writ Petition (Civil) No. 196 of 2001 (India), 28 November 2001, interim order establishing a constitutional right to food.

118 Optional Protocol to the International Covenant on Economic, Social and Cultural Rights, General Assembly Resolution 63/117, UN Doc. A/RES/63/117 (10 Dec 2008) 2.

### *E. Toward a Human Rights Approach to Adaptation*

This section demonstrates how a human rights approach can be particularly relevant to adaptation policy and projects. It also explores some of the consequences of that argument and asks how adaptation policymakers can incorporate human rights concepts and thresholds into adaptation practices.

#### *I. Adaptation Decision Making*

As an initial matter, it is important that international, state and local governments begin to incorporate human rights considerations in decision-making on adaptation practices. As the National Adaptation Programme of Action for many of the least-developed states demonstrate, the first step in implementing an adaptation plan often is to create a framework through which a state or local government can make structured decisions on adaptation policy.<sup>119</sup> If human rights are to be protected in the face of climate change, decision-making processes should take into account human rights norms and protections.

Human rights law focuses on individuals and communities, and, accordingly, a human rights approach to adaptation would emphasise collecting local-level information to support adaptation efforts. Climate change analysis generally remains aggregated at the continental or subregional level, a practice that is logical for mitigation since GHGs cross borders but does not lend itself to understanding the human implications of adaptation decisions.<sup>120</sup> Adaptation policymakers and planners should, therefore, collect more information on individuals and communities, drawing in part on the knowledge that human rights workers have regarding local conditions. Such information-sharing can also ensure good governance and transparency in decisions about the distribution and use of adaptation funding.

Beyond information-gathering, human rights can and should inform substantive adaptation decision-making, from international funding decisions to local project implementation. Human rights standards and thresholds can provide benchmarks that are based on widely agreed upon principles. In addition to gathering information for adaptation decision-making, human

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119 See e.g. Republic of Guinea-Bissau (2008); Republic of Rwanda (2006); Republic of Vanuatu (2007:28–32).

120 ICHRP (2008:4).

rights should also play a role in the procedural aspects of adaptation decision-making. Procedurally, human rights standards call for information-sharing and participation of those affected by policies; and government transparency, public participation and rational decision-making are paramount.<sup>121</sup> Such human rights-informed procedures are particularly important for adaptation decisions, which permanently commit funds to a particular adaptation programme or course of conduct at the exclusion of others, and can themselves affect substantive rights.<sup>122</sup>

## *II. Human Rights as an Adaptation Prioritisation Tool*

Inputs aside, as a larger and more practical example of how human rights can inform adaptation law and policy, human rights should guide international prioritisation of adaptation strategies.<sup>123</sup> In most countries, adaptation is not treated as an integral part of development strategy; nor do the adaptation plans of most states typically include any reference to a consideration of human rights.<sup>124</sup> Incorporating human rights safeguards into adaptation law and policy would in all likelihood improve human rights outcomes. It would also establish common ground in often contentious funding debates by framing adaptation practices in terms of universal norms.

A deficit in adaptation funding will result in difficult policy choices of a different nature than the tough policy choices encountered in mitigation efforts. If GHG emissions are set at the international level, state-level policymakers will have individual GHG emissions targets and policymakers will debate how best to distribute those costs between firms and individuals whose consumption or production leads to GHG emissions. Choosing to fund or not fund certain adaptation projects, in contrast, may have immediate or longer-term human rights implications. National or local adaptation policies, therefore, can benefit from a human rights focus more than the equivalent decisions in mitigation policy.

Applying human rights to adaptation policies can also help prioritise and frame responses in emergency or disaster settings. For example, David

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121 See e.g. ICHRP (2008:8) Kravchenko (2008:541–547), discussing access to information and public participation.

122 See Craig (2010:68).

123 See Hunter (2009:360).

124 See e.g. Lao People's Democratic Republic (2009).

Hunter argues that the generally accepted right to housing suggests that individuals have a right to temporary shelter while their homes are being repaired following a disaster.<sup>125</sup> Therefore, “providing basic shelter to the victims of natural disasters”, Hunter claims, “could arguably be a higher priority than other adaptation expenses”.<sup>126</sup>

Finally, human rights have an immediate role to play in adaptation policy at the international level. In short, a rights-based approach to adaptation that is expressed in the language of human rights is more “achievable and fair” than a similar discourse regarding mitigation.<sup>127</sup> It “potentially provides a platform for broad-based dialogue on burden-sharing of a kind that has frequently lacked in climate change debates.”<sup>128</sup>

### *III. The Impact of Adaptation on Political Mobilisation*

A human rights-based approach to adaptation would be useful also in expressing internationally agreed-upon values that can form the basis for increased common action towards adaptation.<sup>129</sup> To this end, commentators discussing the linkages between human rights and climate change have often discussed the ethical or moral power of climate change to mobilise political action, encouraging policymakers to adopt “robust, effective, and sustainable” policies.<sup>130</sup> While the ethical implications of climate change could motivate either mitigative or adaptive action, adaptation practices may be more effective in mobilising the political support necessary to address climate change, because adaptation practices tend to be on a more human and local scale. If a rights-based approach to climate policy generally has the advantage of giving a human face to the climate change challenge – because it “focuses on excluded and marginalised groups, encourages accountability and transparency in policy decisions, encourages participatory and democratic processes, and provides sustainable outcomes by building on the capacity of key stakeholders”<sup>131</sup> – this is likely to be even more true for adap-

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125 Hunter (2009:360).

126 (ibid.).

127 ICHRP (2008:7).

128 (ibid.).

129 See Kang (2007).

130 Limon (2009:458).

131 Atapattu (2008:45).

tation projects, which typically work at the community, household or individual level.

#### *IV. Proactive Policymaking*

Finally, human rights can also help facilitate more proactive adaptation policymaking. Because it is often easier to make policy decisions once a crisis has occurred than when it is only anticipated,<sup>132</sup> policy choices have historically amounted to reactive adaptation.<sup>133</sup> Yet both proactive and reactive adaptation responses are necessary to address adaptation to climate change effectively.

Interestingly, proactive versus reactive adaptation is one area in which introducing human rights concerns seems to complicate the analysis. Reactive responses, when not combined with proactive adaptation practices, “tend to have higher long term costs because the low costs of preventive action, or anticipative adaptation, are likely to dominate the higher costs of deferred action, or reactive adaptation, appropriately discounted.”<sup>134</sup> Thus, without the perspective of human rights, proactive adaptation policies would clearly be more efficient. However, because it is unlikely that there will be sufficient resources to adapt fully to climate change, the consideration of human rights may move the calculus more toward reactive adaptation policies in the wake of disasters, at least when compared to proactive projects with uncertain value. Of course, when the probability of a particular climate-related human rights breach approaches, proactive policies targeting these anticipated harms will trump because of their value in protecting rights *ex ante*, as well as their overall lower costs.

Human rights can be “a forward-looking means of encouraging the evolution of, and providing a qualitative contribution to, robust, effective, and sustainable policy responses at both the national and international level, across mitigation and adaptation.”<sup>135</sup> And these human rights considerations are especially relevant to adaptation, as adaptation efforts “can be made more effective if policy-makers include human rights criteria (or thresholds) when they assess future harms, identify areas of likely vulnerability and evaluate

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132 Lecocq & Shalizi (2007:41–47).

133 Feldman & Kahan (2007:67).

134 (*ibid.*:68).

135 Limon (2009:458).

comparatively the various policy measures available for treating identified challenges.”<sup>136</sup>

## *F. Conclusion*

The world must adapt to rising temperatures, rising seas, and rising climate vulnerabilities by charting a common and aggressive course that includes policymakers, NGOs, and residents of the global community. The moral and legal duty to do so effectively is paramount if the world is to avoid the growing risk of adaptation apartheid. Many commentators and international bodies have recognised that applying human rights norms to climate change-related injuries could prove normatively beneficial, particularly since it is likely that the most disadvantaged and least-prepared global citizens will suffer the greatest consequences of a warming climate that they played a negligible role in creating. Nonetheless, reconciling this justice-based position within an oftentimes rigid human rights framework has proved challenging. It is difficult to frame doctrinally sound legal claims that can confront those actors that caused, and should be held accountable for, climate change. Considering climate change adaptation more specifically, however, is both normatively desirable and more legally tenable. Adaptation-related human rights claims – together with analyses of diagonally conceived human rights – can help to afford global citizens a more robust international legal framework within which to address climate change. Moreover, insights drawn from human rights should begin to play a larger role in formulating adaptation policy and projects, since these projects will undoubtedly have human implications and a disproportionate impact on vulnerable persons. A human rights approach to adaptation requires flexibility, creativity and temerity, and the law should evolve together with the strategies for adapting to climate change. Finally, legal commentators should discuss how climate adaptation connects with other areas of law that we have not considered in detail, such as Alien Tort Claims Act cases, insurance liability, property rights, and important procedural doctrines in international law. Understood in this way, our discussion of adaptation and human rights is one of many steps in understanding the impact of climate change on domestic and international legal regimes and the rule of law more generally.

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136 ICHRP (2008:80).

## References

- Ackerly Brooke & Michael P. Vandenberg, 2008, Climate Change Justice: The Challenge for Global Governance, *Georgetown International Environmental Law Review* 20, 553–571.
- Atapattu, Sumudu, 2008, Global Climate Change: Can Human Rights (and Human Beings) Survive This Onslaught?, *Colorado Journal of International Environmental Law and Policy* 20, 35–67.
- Badrinarayana, Deepa, 2010, Global Warming: A Second Coming for International Law, *Washington Law Review* 85, 253–292.
- Bayefsky, Anne F., undated, The United Nations Human Rights Treaties: How To Complain About Human Rights Treaty Violations The Basic International Rules, available at [http://www.bayefsky.com/complain/4\\_rules.php](http://www.bayefsky.com/complain/4_rules.php), last accessed 17 April 2012.
- Biber, Eric, 2009, Climate Change, Causation, and Delayed Harm, *Hofstra Law Review* 37, 975–983.
- Birdsall, Nancy, 2012, Remarks at the Brookings Institution Conference on Climate Change Adaptation in a Post-Durban World, Center for Global Development, 6 January 2012, uncorrected transcript available at [http://www.brookings.edu/~media/events/2012/1/06%20climate%20change%20adaptation/20120106\\_climate\\_change\\_adaptation.pdf](http://www.brookings.edu/~media/events/2012/1/06%20climate%20change%20adaptation/20120106_climate_change_adaptation.pdf), last accessed 20 March 2013.
- Boyd, William, 2011, Climate Change, Fragmentation, and the Challenges of Global Environmental Law: Elements of a Post-Copenhagen Assemblage, *University of Pennsylvania Journal of International Law* 32, 457–550.
- Burroughs, William James, 2001, *Climate Change: A Multi-Disciplinary Approach*, Cambridge, Cambridge University Press.
- Camacho, Alejandro E., 2009, Adapting Governance to Climate Change: Managing Uncertainty Through a Learning Structure, *Emory Law Journal* 59, 1–77.
- Cameron, Edward, 2009, The Human Dimension of Global Climate Change, *Hastings West-Northwest Journal of Environmental Law & Policy* 15, 1–14.
- Carlson, Jonathan C., 2009, Reflections on a Problem of Climate Justice: Climate Change and the Rights of States in a Minimalist International Legal Order, *Transnational Law and Contemporary Problems* 18, 45–67.
- Craig, Robin Kundis, 2010, “Stationarity is Dead” – Long Live Transformation: Five Principles for Climate Change Adaptation Law, *Harvard Environmental Law Review* 34, 9–73.
- Davies, Mark Katy Oswald & Tom Mitchell, 2009, Climate Change Adaptation, Disaster Risk Reduction and Social Protection, in: OECD, *Promoting Pro-Poor Growth: Social Protection*, OECD, available at <http://www.oecd.org/development/povertyreduction/43514563.pdf>, last accessed 20 March 2013.
- De Schutter, Olivier, 2010, *International Human Rights Law*, New York, Cambridge University Press.
- Docherty, Bonnie & Tyler Giannini, 2009, Confronting a Rising Tide: A Proposal for a Convention on Climate Change Refugees, *Harvard Environmental Law Review* 33, 349–403.



- Feldman, Ira R. & Joshua H. Kahan, 2007, Preparing for the Day After Tomorrow: Frameworks for Climate Change Adaptation, *Sustainable Development Law and Policy* 8, 61–89.
- Fleshman, Michael, 2007, Climate Change and Africa: Stormy Weather Ahead, *Public Agenda* 21 August 2007, available at [http://www.sarpn.org/newsflash.php?news\\_id=8745&archive=1](http://www.sarpn.org/newsflash.php?news_id=8745&archive=1), last accessed 20 March 2013.
- Freeman, Jody & Andrew Guzman, 2009, Climate Change and U.S. Interests, *Columbia Law Review* 109, 1531–1574.
- Hall, Margaux J. & David C. Weiss, 2012, Avoiding Adaptation Apartheid: Climate Change Adaptation and Human Rights Law, *Yale Journal of International Law* 37, 309–366.
- Harris, Paul G., 2006, The European Union and Environmental Change: Sharing the Burdens of Global Warming, *Colorado Journal of International Environmental Law and Policy* 17, 309–355.
- Hawken, Paul, 2007, *Blessed Unrest: How the Largest Movement in the World Came into Being and Why No One Saw It Coming*, New York, Penguin.
- Hunter, David B., 2009, Human Rights Implications for Climate Change Negotiations, *Oregon Review of International Law* 11, 331–363.
- Institute of Development Studies, 2006, *Overcoming the Barriers: Mainstreaming Climate Change Adaptation in Developing Countries*, Teddington, Tearfund, available at [http://www.chs.ubc.ca/archives/files/Overcoming%20the%20Barriers\\_%20Mainstream%20Climate%20Change%20Adaptation%20in%20Developing%20Countries.pdf](http://www.chs.ubc.ca/archives/files/Overcoming%20the%20Barriers_%20Mainstream%20Climate%20Change%20Adaptation%20in%20Developing%20Countries.pdf), last accessed 19 March 2013.
- ICHRP/International Council on Human Rights Policy, 2008, *Climate Change and Human Rights: A Rough Guide*, available at [http://www.ichrp.org/files/summaries/35/136\\_summary.pdf](http://www.ichrp.org/files/summaries/35/136_summary.pdf), last accessed 4 October 2012.
- International Law Association Committee on International Human Rights Law and Practice, 1996, *Report on the UN Human Rights Treaties: Facing the Implementation Crisis*, available at <http://www.bayefsky.com/reform/ila.php>, last accessed 4 October 2012.
- IPCC/Intergovernmental Panel on Climate Change, 2007a, *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Pachauri, Rajendra K. & Andy Reisinger (Eds), Geneva, IPCC, available at [http://www.ipcc.ch/publications\\_and\\_data/publications\\_ipcc\\_fourth\\_assessment\\_report\\_synthesis\\_report.htm](http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_synthesis_report.htm), last accessed 13 January 2013.
- IPCC/Intergovernmental Panel on Climate Change, 2007b, *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Solomon, Susan, Dahe Qin, Martin Manning, Zhenlin Chen, Melinda Marquis, Kristen B. Averyt, Melinda Tignor & Henry L. Miller (Eds), Cambridge, Cambridge University Press.

- IPCC/Intergovernmental Panel on Climate Change, 2007c, *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Parry, Martin L., Osvaldo F. Canziani, Jean Palutikof, Paul J. Van der Linden & Clair E. Hanson (Eds), Cambridge, Cambridge University Press.
- IPCC/Intergovernmental Panel on Climate Change, 2007d, *Climate Change 2007: Mitigation of Climate Change. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, Bert Metz, Ogunlade R. Davidson, Peter R. Bosch, Rutu & Leo A. Meyer (Eds), Cambridge, Cambridge University Press.
- Joffe, Paul L., 2009, Conscience and Interest: Law, Rights, and Politics in the Struggle to Confront Climate Change and the New Poverty, *Rutgers Journal of Law and Public Policy*, 6 (2009) 269–333.
- Johnston, Jason Scott, 2008, Climate Change Confusion and the Supreme Court, *Notre Dame Law Review* 84, 1–74.
- Joubert, Pearlle, 2008, Grootboom Dies Homeless and Penniless, *Mail & Guardian Online* 8 August 2008, available at <http://www.mg.co.za/article/2008-08-08-grootboom-dies-homeless-and-penniless>, last accessed 4 October 2012.
- Kang, Kyung-wha, 2007, Address at the Conference of the Parties to the UNFCCC and its Kyoto Protocol, 14 December 2007, available at [http://www.maldivesmission.ch/fileadmin/Pdf/Environment/DHC\\_Statement\\_Bali\\_Final.pdf](http://www.maldivesmission.ch/fileadmin/Pdf/Environment/DHC_Statement_Bali_Final.pdf), last accessed 11 November 2012.
- Kass, Stephen L., 2009, Integrated Justice: Human Rights, Climate Change, and Poverty, *Transnational Law and Contemporary Problems* 18, 115–138.
- Kende, Mark S., 2003, The South African Constitutional Court's Embrace of Socio-Economic Rights: A Comparative Perspective, *Chapman Law Review* 6, 137ff.
- Knox, John H., 2009a, Climate Change and Human Rights Law, *Virginia Journal of International Law* 50 (1), 163–218.
- Knox, John H., 2009b, Diagonal Environmental Rights, in: Gibney, Mark & Sigrun Skogly (Eds), *Universal Human Rights and Extraterritorial Obligations*, Philadelphia, University of Pennsylvania Press, 82–103.
- Knox, John H., 2009c, Linking Human Rights and Climate Change at the United Nations, *Harvard Environmental Law Review* 33, 477–498.
- Koivurova, Timo, 2007, International Legal Avenues to Address the Plight of Victims of Climate Change: Problems and Prospects, *Journal of Environmental Law and Litigation* 27, 267–299.
- Kolmannskog, Vikram, 2009, Dignity in Disasters and Displacement: Exploring Law, Policy and Practice on Relocation and Return in the Context of Climate Context, paper prepared for the Global Environmental Change and Human Security Synthesis Conference, “Human Security in an Era of Global Change”, University of Oslo, 22–24 June 2009, available at: <http://www.nrc.no/?aid=9411918>, last accessed 20 March 2013.
- Kravchenko, Svitlana, 2008, Right to Carbon or Right to Life: Human Rights Approaches to Climate Change, *Vermont Journal of Environmental Law* 9, 513–547.

- Lao People's Democratic Republic, 2009, *National Adaptation Programme of Action*, April 2009, available at <http://unfccc.int/resource/docs/napa/laos01.pdf>, last accessed 4 October 2012.
- Lecocq, Frank & Zmarak Shalizi, 2007, *Balancing Expenditures on Mitigation of and Adaptation to Climate Change: An Exploration of Issues Relevant to Developing Countries*, World Bank Group, Policy Research Working Paper No. 4299, available at [http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2007/08/02/000158349\\_20070802095523/Rendered/PDF/wps429.pdf](http://www-wds.worldbank.org/external/default/WDSContentServer/IW3P/IB/2007/08/02/000158349_20070802095523/Rendered/PDF/wps429.pdf), last accessed 19 March 2013.
- Liebenberg, Sandra, 2001, The Right to Social Assistance: The Implications of Grootboom for Policy Reform in South Africa, *South African Journal on Human Rights* 17, 232–257.
- Limon, Marc, 2009, Human Rights and Climate Change: Constructing a Case for Political Action, *Harvard Environmental Law Review* 33, 439–476.
- McInerney-Lankford, Siobhán, 2009, Climate Change and Human Rights: An Introduction to Legal Issues, *Harvard Environmental Law Review* 33, 431–437.
- Metz, Bert & Marcel Kok, 2008, Integrating Development and Climate Policies, *Climate Policy* 8, 99–102.
- Müller, Benito, 2010, *The Reformed Financial Mechanism of the UNFCCC*, Oxford, Oxford Institute for Energy Studies.
- OHCHR/Office of the UN High Commissioner for Human Rights, 2007, *The Human Rights Impact of Climate Change*, Bali Climate Change Conference 3–14 December 2007, available at <http://www.ohchr.org/Documents/Press/HumanRightsImpactClimateChange.pdf>, last accessed 20 March 2013.
- OHCHR/Office of the UN High Commissioner for Human Rights, 2009, *Report of the Office of the UN High Commissioner for Human Rights on the Relationship Between Climate Change and Human Rights*, UN Doc. A/HRC/10/61, 15 January 2009, available at <http://www.unhcr.org/refworld/docid/498811532.html>, last accessed 20 March 2013.
- Orrell, David, 2009, *The Future of Everything: The Science of Prediction*, New York, Thunder's Mouth Press.
- Paavola, Jouna, 2006, Justice in Adaptation to Climate Change in Tanzania, in: Adger, W. Neil, Jouni Paavola, Saleemul Huq, Mary Jane Mace (Eds), *Fairness in Adaptation to Climate Change*, Cambridge, Massachusetts Institute of Technology Press, 201–222.
- Posner, Eric A., 2007, Climate Change and International Human Rights Litigation: A Critical Appraisal, *University of Pennsylvania Law Review* 155, 1925–1945.
- Republic of Guinea-Bissau, *National Adaptation Programme of Action*, February 2008, available at <http://unfccc.int/resource/docs/napa/gnb01.pdf>, last accessed 4 October 2012.
- Republic of Maldives, 2008, *Submission of the Maldives to the Office of the UN High Commissioner for Human Rights*, 25 Sept 2008, available at World Bank, 2010, *World Development Report 2010: Development and Climate Change*, Washington D.C., World Bank, available at [http://www.ohchr.org/Documents/Issues/ClimateChange/Submissions/Maldives\\_Submission.pdf](http://www.ohchr.org/Documents/Issues/ClimateChange/Submissions/Maldives_Submission.pdf), last accessed 20 March 2013.

- Republic of Rwanda, 2006, *National Adaptation Programme of Action*, Kigali, Ministry of Lands, Environment, Forestry, Water and Mines, available at <http://unfccc.int/resource/docs/napa/rwa01e.pdf>, last accessed 19 March 2013.
- Republic of Vanuatu, 2007, *National Adaptation Programme of Action*, December 2007, available at <http://unfccc.int/resource/docs/napa/vut01.pdf>, last accessed 4 October 2012.
- Ruhl, J.B., 2010, Climate Change Adaptation and the Structural Transformation of Environmental Law, *Environmental Law* 40, 363–431.
- Ruhl, J.B., 2011, General Design Principles for Resilience and Adaptive Capacity in Legal Systems: Applications to Climate Change Adaptation Law, *North Carolina Law Review* 89, 1473–1401.
- Simma, Bruno, 1983, Consent: Strains in the Treaty System, in: Macdonald, Ronald St. J. & Douglas M. Johnston (Eds), *The Structure and Process of International Law*, Dordrecht, The Netherlands, Martinus Nijhoff Publishers, 485–512.
- Sinden, Amy, 2007, Climate Change and Human Rights, *Journal of Land Resources and Environmental Law* 27 (2), 255–271.
- Streck, Charlotte, 2009, Expectations and Reality of the Clean Development Mechanism: A Climate Finance Instrument Between Accusations and Aspirations, in: Stewart Richard B., Benedict Kingsbury & Bryce Rudyk (Eds), *Climate Finance: Regulatory and Funding Strategies for Climate Change and Global Development*, New York, New York University Press, 67–78.
- Sunstein, Cass R., 2008, The World vs. The United States and China? The Complex Climate Change Incentives of the Leading Greenhouse Gas Emitters, *University of California, Los Angeles Law Review* 55, 1675–1700.
- Transparency International, 2011, Monitoring Climate Adaptation Financing to Ensure Effectiveness, Transparency International Policy Position No. 3., available at [http://www.transparency.org/whatwedo/pub/policy\\_position\\_03\\_2011\\_monitoring\\_climate\\_adaptation\\_financing\\_to\\_ensure\\_e](http://www.transparency.org/whatwedo/pub/policy_position_03_2011_monitoring_climate_adaptation_financing_to_ensure_e), last accessed 20 March 2013.
- Tsositse, Rebecca, 2009, Sustainability: Moving From Theory to Practical Application, *Environmental and Energy Law and Policy* 4, 188–255.
- UNDP/United Nations Development Programme, 2007, *Human Development Report 2007/2008, Fighting Climate Change: Human Solidarity in a Divided World*, New York, UNDP, available at [http://hdr.undp.org/en/media/HDR\\_20072008\\_EN\\_Complete.pdf](http://hdr.undp.org/en/media/HDR_20072008_EN_Complete.pdf), last accessed 20 March 2013.
- UNDP/United Nations Development Programme, 2008, *Resource Guide on Gender and Climate Change*, New York, UNDP, available at [http://www.un.org/womenwatch/downloads/Resource\\_Guide\\_English\\_FINAL.pdf](http://www.un.org/womenwatch/downloads/Resource_Guide_English_FINAL.pdf), last accessed 20 March 2013.
- UN Human Rights Committee, 1984, General Comment No. 14: Article 6 (Right to Life) Nuclear Weapons and the Right to Life, 9 November 1984, UN Document HR1/GEN/1/REV. 9 (Vol. I), available at <http://www.unhcr.org/refworld/docid/453883f911.html>, last accessed 21 March 2013.
- Wiener, Jonathan B., 2009, Property and Prices to Protect the Planet, *Duke Journal of Comparative and International Law* 19, 515–534.

- Woods, Andrew K., 2010, A Behavioral Approach to Human Rights Law, *Harvard International Law Journal International Law Journal* 51, 51–112.
- World Bank, 2010, *World Development Report 2010: Development and Climate Change*, Washington D.C., World Bank, available at <http://siteresources.worldbank.org/INTWDR2010/Resources/5287678-1226014527953/WDR10-Full-Text.pdf>, last accessed 4 October 2012.
- World Bank Institute, 2011, First Regional Latin American Symposium on Right to Health and Health Systems Meeting Report, 23–24 June 2011, on file with authors.
- Young, Katharine G., 2008, The Minimum Core of Economic and Social Rights: A Concept in Search of Content, *Yale Journal of International Law* 33, 113–175.

