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Human Rights and Climate Change

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HUMAN RIGHTS AND CLIMATE CHANGE

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Abstract: Among the linkages identified between human rights law and environmental protection, the problem of anthropogenic climate change has emerged as a central concern. Some of the early focus on climate change as itself a human rights violation has given way to a more complete and forward-looking approach that considers how human rights law can and must be incorporated in climate change mitigation and adaptation measures.

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Shelton serves on the boards of many human rights and environmental organizations. In 2006, she was awarded the prestigious Elizabeth Haub Prize in Environmental Law. She has served as a legal consultant to the United Nations Environment Programme, UNITAR, World Health Organization, European Union, Council of Europe, and Organization of American States. In 2009, she became the first woman nominated by the United States to become a member of the Inter-American Human Rights Commission, established by the Organization of American States to promote and protect human rights in the Western Hemisphere. She was elected to a four-year term in June, 2009.

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Despite over three decades of international efforts to address anthropogenic climate change,¹ the world is no closer today to solving the complex issues of mitigation and adaptation than it was when the Maldives first warned about climate change in the U.N. General Assembly in 1987.² The study of climate change began among meteorologists and others in the physical sciences; in the social sciences, the basic orientation has been economic, centred on consensus-driven market-based and technological solutions. At least some of the lack of action and inattention to the increasingly recognized human impacts may be attributed to the “inverse relationship between responsibility for climate change and vulnerability to its impacts.”³ In other words, those who suffer most are not those who cause the problem.

Given this equitable consideration, many organizations, governments and scholars over the past few years have begun to take a new approach to climate change, by exploring the interface between climate change and human rights. Those who have taken up the question include non-governmental organizations and foundations like the Ford Foundation, the International Council on Human Rights Policy (“ICHRP”),⁴ Oxfam International,⁵ Kofi Annan's Global Humanitarian Forum⁶; and inter-governmental bodies such as the Organization of American States⁷ and the United Nations Development Programme. In its 2007/2008 Human Development Report, the UNDP forthrightly claimed that climate change represents “a systematic violation of the human rights of the world's poor and future generations, and a step back from universal values.”⁸ Kyung-wha Kang, Deputy U.N. High Commissioner for Human Rights, has emphasized that “[A]ny 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

¹ In 1979, the United States National Academy of Sciences published an assessment of the scientific basis for climate change which concluded that: “[i]f carbon dioxide continues to increase, the study group finds no reason to doubt that climate change will result and no reason to believe that these changes will be negligible.” Edward Cameron, *The Human Dimension of Global Climate Change*, 15 *Hastings W.-Nw. J. Envtl. L. & Pol'y.* 1, 8 (2009) (quoting Nat'l Acad. of Sci., *Carbon Dioxide and Climate: A Scientific Assessment*, at viii (1979), available at http://www.nap.edu/catalog.php?record_id=12181).

² In 1987, President Gayoom became the first world leader to raise the issue of climate change at the United Nations General Assembly when he delivered his famous “Death of a Nation” speech. Gayoom, *Speech at Royal Commonwealth Society*, supra note 11, at 6. A few weeks earlier, he also raised the issue at the Commonwealth Heads of Government Meeting in Canada. Gayoom, *Speech at Commonwealth Heads of Government Meeting*, supra note 11, at 2-4.

³ U.N. Dev. Programme, *Human Development Report 2007/2008*, at 3 (2007) [hereinafter *Human Development Report*].

⁴ See Int'l Council on Human Rights Policy, *Climate Change and Human Rights: A Rough Guide* (2008).

⁵ See Oxfam Int'l, *Climate Wrongs and Human Rights: Putting People at the Heart of Climate-Change Policy* (2008), available at <http://www.oxfam.org/sites/www.oxfam.org/files/bp117-climate-wrongs-and-human-rights-0809.pdf>.

⁶ The Global Humanitarian Forum's inaugural annual meeting was titled “The Human Face of Climate Change,” and the Forum's current strategic focus is “The Human Impact of Climate Change.” See *Global Humanitarian Forum Geneva, Forum 2008: The Human Face of Climate Change* (2008), available at <http://www.ghf-geneva.org> (follow “A Forum Report: The Human Face of Climate Change” hyperlink).

⁷ See Organization of American States [OAS], *General Assembly Res. AG/Res. 2429 (XXXVIII-O/08)*, OAS Doc. AG/doc.4886/08 (June 3, 2008).

⁸ See *Human Development Report*, supra note , at 4.

framework is the most effective way to do so.”⁹

On March 28, 2008, the United Nations Human Rights Council responded, adopting by consensus an unprecedented resolution¹⁰ on human rights and climate change. The approval marked broad support for the view that, in order to turn the present situation around, the world needs to re-conceptualize climate change as a human issue with human causes and human consequences.¹¹

The Maldives government introduced the 2008 Council resolution, which was joined by seventy-eight co-sponsoring countries from all regional groups. The resolution affirms that climate change “poses an immediate and far-reaching threat to people and communities around the world and *has implications for the full enjoyment of human rights.*”¹² Not all governments agreed at first that climate change has “implications for the full enjoyment of human rights.” Several countries argued that no official U.N. documentation supports the claim. The United States, while it agreed that “climate change . . . has implications for the full enjoyment of human rights,” noted that such “statements are factual observations rather than statements of international law.”¹³ The U.S. also pointed out that the effects of climate change on the enjoyment of human rights can be positive as well as negative.¹⁴

The U.S. argued against any decision to move “toward a human rights-based approach to climate protection” calling it both “impractical and unwise.”¹⁵ It gave four reasons for this position:

1. Complexity and uncertainty: “[C]limate change is a highly complex environmental issue, characterized by a long chain of steps between the initial human activities that produce greenhouse gas emissions and the eventual physical impacts that may result from those emissions. . . . Furthermore, many uncertainties exist regarding the magnitude of current and future climate change, including distinguishing between those impacts that are part of natural climate variability and those that are influenced by

⁹ Kyung-wha Kang, Deputy High Comm'r for Human Rights, Office of the U.N. High Comm'r for Human Rights, Address at the Conference of the Parties to the UNFCCC and its Kyoto Protocol (Dec. 14, 2007), available at http://www.maldivesmission.ch/fileadmin/Pdf/Environment/DHC_Statement_Bali_Final.pdf.

¹⁰ U.N. Human Rights Council [UNHRC] Res. 7/23, U.N. Doc. A/HRC/7/78 (Mar. 28, 2008) [hereinafter UNHRC 7/23].

¹¹ Maumoon Abdul Gayoom, President of the Maldives, Speech at Royal Commonwealth Society (July 17, 2007), available at http://www.maldivesmission.ch/fileadmin/Pdf/Environment/Speech_by_President_Gayoom_to_Royal_Commonwealth_Society_July_07.pdf. In November 2007, the Maldives convened a Small Island States Conference to address these effects and the implications thereof. The outcome of the meeting--the Malé Declaration on the Human Dimension of Global Climate Change--stated explicitly (and for the first time in an international agreement) that “climate change has clear and immediate implications for the full enjoyment of human rights” and called on the United Nations human rights system to address the issue as a matter of urgency.¹¹ Small Island States Conference, Malé, Maldives, Nov. 13-14, 2007, Malé Declaration on the Human Dimension of Global Climate Change, at 2 (Nov. 14, 2007), available at http://www.ciel.org/Publications/Male_Declaration_Nov07.pdf.

¹² UNHRC 7/23, supra note 1, p.mbl. During negotiations on the resolution, there was significant opposition to this paragraph with some countries arguing that there was no definitive U.N. assessment to prove the premise.

¹³ Submission of U.S. to OHCHR Report, Observations by the United States of America on the Relationship Between Climate Change and Human Rights, P 14 (2008) [hereinafter U.S. OHCHR Report Submission], available at <http://www2.ohchr.org/English/issues/climatechange/docs/submissions/USA.pdf>.

¹⁴ Id. p. 15.

¹⁵ Id.

- anthropogenic climate change.”¹⁶
2. Inability to assess responsibility due to the multiplicity of actors who contribute to greenhouse gas emissions.¹⁷
 3. Dead people did it. “Emissions of carbon dioxide, on average, remain in the atmosphere for about 100 years. . . . Accordingly, the impacts of climate change today are caused not by recent emissions but the accumulation of greenhouse gases over long periods of time by a diffuse set of actors, most of whom would have been unaware of any potentially adverse future impact”¹⁸
 4. The purpose of human rights law is to redress violations and “[t]his framework requires identifiable violations, and identifiable harms attributable to the violations”¹⁹

Despite these misgivings, the Resolution was adopted. The text asked the Office of the High Commissioner for Human Rights (“OHCHR”) to prepare a “detailed analytical study on the relationship between climate change and human rights, to be submitted to the Council prior to its tenth session” and for the study to be sent to the Conference of Parties to the UNFCCC ahead of the Copenhagen Conference of the Parties. Independently in 2008, the Inter-American Human Rights Commission was asked by the OAS General Assembly to prepare a report on the human rights dimensions of climate change.

In preparing its commissioned (January 2009) Report,²⁰ the OHCHR obtained written and oral submissions from a wide variety of states, intergovernmental and non-governmental organizations, national human rights institutions, and academics. It relied on the Intergovernmental Panel on Climate Change’s Fourth Assessment Report (“IPCC4”) for the scientific data on which it based its human rights analysis. The OHCHR Report acknowledges that climate change affects human rights only indirectly as a consequence of environmental degradation, but notes that the 1972 Stockholm Declaration of the United Nations Conference on the Human expressed a general recognition of the interdependence and interrelatedness of human rights and environmental conditions.

The OHCHR Report finds that global warming “will potentially have implications for the full range of human rights” but quite rightly recognizes that certain rights are most directly implicated by climate change-related impacts. These rights include the right to life, the right to adequate food, the right to water, the right to health, the right to adequate housing, and the right to self-determination. Certain countries, e.g. small-island and low-lying states, as well as countries liable to floods, drought, and desertification, are particularly vulnerable due to geographical conditions exacerbated by low adaptive capacity. The poor and other vulnerable groups such as children, women, minorities, the elderly, and persons with disabilities are disproportionately threatened. Measures taken to mitigate and adapt to climate change also have human rights implications that must be considered.

¹⁶ Id. pp. 18-19.

¹⁷ “[C]limate change is a global phenomenon. A worldwide and diffuse set of actors--public and private, wealthy and poor--collectively determine the world’s anthropogenic greenhouse emission levels. Id. p. 20.

¹⁸ Id. p. 21.

¹⁹ Id. pp. 23-24.

²⁰ Office of the U.N. High Comm’r for Human Rights [OHCHR], Report of the Office of the U.N. High Commissioner for Human Rights on the Relationship Between Human Rights and Climate Change, U.N. Doc. A/HRC/10/61 (Jan. 15, 2009) [hereinafter OHCHR Report].

On March 25, 2009, the U.N. Human Rights Council adopted its second consensus Resolution on human rights and climate change²¹ in response to the OHCHR Report. Resolution 10/4 notes that “climate change-related effects have a range of implications, both direct and indirect, for the effective enjoyment of human rights” and goes on to list those rights that are particularly implicated²² especially for those people who are already in vulnerable situations.²³

The Value of a Rights-Based Approach

What does a human rights approach add to efforts to address climate change through the UNFCCC and Copenhagen negotiations,?

First, a human rights perspective emphasizes the effects of climate change on the lives of human beings. Until now, “the international community has largely failed to translate the important and hard-won scientific consensus [on climate change] into an equally compelling vision of how the consequences of global warming are being felt by people and communities around the world.”²⁴ Acknowledging the enormous human suffering helps create an ethical imperative to act that can translate into legal obligations or invoke and build on existing norms and duties.

Second, a human rights framework addresses the needs of those who are disproportionately affected by climate change and who, if empowered to do so, can make important contributions to improving climate change policy – at the very least by ensuring that measures taken are not additionally discriminatory. Development is central to resolving the climate change problem, because urgent material needs are still unmet in many countries. Over a billion people live without access to electricity in China and India alone.²⁵ This inevitably means continued demand for increased energy sources. The right to sustainable development, now generally accepted, and meeting basic needs will be non-negotiable starting points for climate change action. Since all known routes to development, to water and land security, improved health care and education, secure livelihoods, involve expanding access to energy services²⁶ the poorer countries will have to be exempt in the short term from being paying for climate change mitigation. Even without climate change, resource constraints inevitably impair a state’s capacity to fulfil social and economic rights — hence the notion of “progressive realisation” of those rights under international law.

²¹ UNHRC, Report of the Human Rights Council on Its Tenth Session, at 159, U.N. Doc. A/HRC/10/29 (Apr. 20, 2009)

²² UNHRC Res. 10/4, pmb., U.N. Doc. A/HRC/10/29 (Mar. 20, 2009) [hereinafter UNHRC 10/4]. The Resolution highlights, in particular: “the right to life, the right to adequate food, the right to the highest attainable standard of health, the right to adequate housing, the right to self-determination, and human rights obligations related to safe drinking water and sanitation.” Id. The Resolution also recalls that, under international human rights law, in no case may a people be deprived of its own means of subsistence. Id.

²³ Id.

²⁴ Maumoon Abdul Gayoom, President of the Maldives, Statement at the Annual Meeting 2008 of the Global Humanitarian Forum (June 24, 2008), available at http://www.maldivesmission.ch/fileadmin/Pdf/Environment/HEP_Speech_to_GHF_final.pdf.

²⁵ International Energy Agency, World Energy Outlook 2002 (Paris: OECD/IEA 2004).

²⁶ See Sivan Kartha, et al, “The Right to Development in a Climate Constrained World: The Greenhouse Development Rights Framework,” ICHRP Review meeting, July 2009.

Thirdly, by relying on a set of internationally agreed values around which policy responses can be negotiated and motivated, human rights has the potential to contribute, qualitatively, to the construction of better policy responses at both the national and international level.

Human rights principles and rules are further strengthened by the existence of monitoring and accountability mechanisms, including rights of access to administrative and judicial remedies. Under human rights law, a person's government is ordinarily identified as the party responsible for a given rights violation. However, in the context of climate change, primary responsibility for the impacts in the most vulnerable countries lies with multiple distant actors. In this respect, the notion of transboundary human rights obligations remains a matter of some controversy.²⁷

Nonetheless, human rights law and policy can potentially help fill important gaps in the existing international climate change regime. The UNFCCC and the Kyoto Protocol both ignore issues pertaining to the potential loss of sovereignty or statelessness caused by climate change-related impacts. As the Marshall Islands has noted, “[s]evere inundation or the total loss of land could result in the Marshall Islands ceasing to be physically habitable, which raises problems of migration, resettlement, cultural survival and sovereignty. These important issues have not been resolved in the international discussions on climate change.”²⁸ The citizens of many small island states, not just those in the Marshall Islands, are facing the possibility of becoming environmental refugees during the present century. The legal and political issues this raises also fall within the domain of human rights. Article 2 of the ICCPR imposes an obligation on the international community to take positive action toward the realisation of the right to self-determination, regardless of whether a people are located within the territory or jurisdiction of a particular State. This may suggest a positive obligation for industrialised countries to protect the sovereignty of small island states by taking meaningful action to cut greenhouse gases before such States are rendered uninhabitable.

1. Basic Elements

Climate Change Science and Predicted Impacts

The Intergovernmental Panel on Climate Change was established in 1988 jointly by the World Meteorological Organization and the United Nations Environment Programme. It consists of

²⁷ Extraterritorial responsibility is a fraught area of international human rights law. Existing case law suggests that states have responsibility for (i) state actions taken in other countries, (ii) human rights protections in countries where they exercise “effective control” and (iii) violations committed abroad of private actors falling under their jurisdiction. See, for example, *Lopez Burgos v. Uruguay*, HRC Comm. No. R12/52 (1979), Views of July 29, 1981; *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, ICJ Advisory Opinion of July 9, 2004; *Coard et al v. U.S.*, IACHR Case No. 10.951, Reports no 109/99, Sept 29, 1999; *Bankovic v. Belgium*, ECtHR App. 52207/99, Decision of Dec. 12, 2001. However, the case law is sparse and its applicability to climate-related harms doubtful. Alternative mechanisms involving “long-arm” domestic jurisdiction—such as the United States’ Alien Tort Claims Act—too may be of limited potential value. Whereas state responsibility for extraterritorial violations of social and economic rights has not been established under international law, the particular harms caused by global warming may generate colourable claims of this kind. See further below section II.

²⁸ M. Crawford et al., *Vulnerability Assessment for Accelerated Sea Level Rise, Case Study: Majuro Atoll, Republic of the Marshall Islands* (1993).

3000 scientists from more than 150 nations. The first assessment report was prepared in 1990, with subsequent reports appearing in 1996 and 2001. The Fourth assessment, consisting of four reports and a synthesis, were published in 2007.

The IPCC established a clear “unequivocal” scientific consensus on the fact of climate change. (in scientific terms this is very strong language). The IPCC also identified the principal cause of climate change, stating that “most of the observed increase in globally averaged temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations”. Moreover, “discernable human influences now extend to other aspects of climate, including ocean warming, continental average temperatures, temperature extremes, and wind patterns.” The IPCC conclusion that climate change is “very likely” caused by human activity translates to a probability above 90%.

According to the IPCC, climate change is extremely likely to have significant adverse impacts on the enjoyment of human rights worldwide, including the rights to life, health, water, food, a means of subsistence, and culture. The IPCC has warned that climate change impacts will cause harm to fresh water resources, ecosystems, food and other agricultural products, coastal systems and human health.²⁹ As early as 2020, yields from rain-fed crops in parts of Africa could decrease by 50% and 50 million more people will be at risk of hunger around the globe. Up to one billion people could face water shortages in Asia by the 2050s due to melted glaciers. Climate change is thus likely to cause large-scale population displacement both within and across borders, threatening the enjoyment of human rights by millions of people. Indeed, many of these impacts are already being experienced by communities around the world, and are disproportionately felt by vulnerable groups including indigenous peoples, the poor, and children.

As noted above, sea-level rise is threatening entire countries. Experts conservatively estimate that sea-level rise attributable to global climate change could reach close to one meter over the next century.³⁰ Less conservative estimates based on a linear continuation of past reductions in Greenland and Antarctic Ice Sheets place potential sea-level rise at closer to ten meters.³¹ Most of what is now Tuvalu would be covered by eight meters of water. For the Maldives, a mean sea level rise of even 2 metres would suffice to virtually submerge the entire country of 1,190 small islands. For many small island states, the threat of sea level rise is coupled with the additional threat of ocean acidification. Increasing atmospheric carbon dioxide concentrations have already led to 30% more acid in the oceans than before fossil fuel burning started, causing coral bleaching and the decimation of other marine species.

The 2004 Arctic Climate Impact Assessment (ACIA) provided a comprehensive international evaluation of the present and future impacts of Arctic climate change.³² “The average

²⁹ The IPCC also reviews impacts to industry. Although damages to industry and infrastructure could have impacts on such human rights as the right to work, right to housing, and the right to an adequate standard of living, this category of impacts is beyond the scope of this report.

³⁰ IPCC, WORKING GROUP I, THE SCIENCE OF CLIMATE CHANGE 17 (Third Assessment Report, 2001).

³¹ DAVID HUNTER ET AL, INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 641 (3d ed., 2007).

³² Susan Joy Hassol, Impacts of a Warming Arctic: Arctic Climate Impact Assessment (2004), available at <http://amap.no/acia/>.

temperature has risen in the Arctic at almost twice the rate as the rest of the world.³³ In the past thirty years, the annual average sea-ice coverage in the Arctic region has decreased by about 8%-an area larger than all of Norway, Sweden, and Denmark combined.³⁴ Summer sea-ice has suffered an even greater loss of 15-20%, and this melting trend is accelerating,³⁵ with some models projecting an almost total loss of summer sea ice by 2100.³⁶ The sea ice that remains is becoming thinner, with average reductions at 10-15%, with some areas showing a loss of thickness up to 40%.³⁷ Arctic warming is further evidenced in the thawing of permafrost. Permafrost temperatures have risen as much as 2°C in the past few decades, and permafrost degradation is projected to affect 10-20% of the present permafrost area in the next century.³⁸ In addition, the southern limit of permafrost is projected to shift northward by several hundred kilometers.³⁹

Seasonal changes in the Arctic region have already been documented. The arrival of spring is unquestionably occurring earlier.⁴⁰ The season of river and lake ice has decreased by 1 to 3 weeks in some areas as a result of later autumns and earlier springs. Weather patterns have become more severe and less predictable in the Arctic. Experienced hunters and elders, who could previously accurately predict weather patterns using traditional methods, are no longer able to do so. Thunderstorms with high winds are occurring more frequently and without warning, and sea-ice no longer shields traveling vessels or coastlines. Snow quality changes have been widely observed in the Arctic and are expected to continue. Changing wind patterns cause snow to be hard-packed. The Arctic has also seen an increase in rain and freezing rain. An increase in thawing and freezing cycles in the winter leads to ice layer formation, which coats plants in a layer of ice and destroys the snow's insulating properties.

These effects are most significant on the indigenous people who rely on the resources of the unique Arctic climate for their survival and cultural identity. The ACIA noted that “[f]or Inuit, warming is likely to disrupt or even destroy their hunting and food sharing culture as reduced sea ice causes the animals on which they depend on to decline, become less accessible, and possibly become extinct.” Caribou and reindeer, which provide indigenous people with food, shelter, fuel, tools, and cultural items, are dependent on tundra vegetation, especially during calving season.⁴¹ Deeper snows and more freeze-thaw cycles produce poorer quality vegetation, which limits the caribou's ability to forage and delays the caribou's northern migration.⁴² Ice crusting from freeze-thaw events has been reported with increasing frequency and resulted in dramatic reindeer population crashes.⁴³

³³ Id. at 8.

³⁴ Id. at 25.

³⁵ Id.

³⁶ Id. at 30.

³⁷ Id. at 25.

³⁸ Id. at 74. Permafrost is soil, rock, or sediment that has remained below freezing for two or more consecutive years. Id. at 87.

³⁹ Id.

⁴⁰ Id. at 94-97.

⁴¹ Id. at 70.

⁴² Id. at 72.

⁴³ Id. at 69.

Sea ice is extremely important to Inuit culture as “a supporter of life” for species on which they depend for sustenance.⁴⁴ Polar bears rely on sea ice for traveling and seal hunting. Mother polar bears fast for 5-7 months and depend on good spring ice conditions for seal-hunting success.⁴⁵ Early break-up of spring sea ice could separate traditional den sites from traditional feeding areas, and young cubs cannot swim long distances from the dens to feed. Polar bears are unlikely to survive as a species if there is a near-complete loss of summer sea ice. Various species of seals also depend on the ice, giving birth to and nursing their pups on the ice and using it as a resting platform.⁴⁶

Climate Change Legal Obligations

The United Nations Framework Convention on Climate Change, to which the U.S. and 191 other countries are parties, accepts that climate changes is being caused by human activities, largely taking place in industrialized wealthy countries, while the impacts are felt within many of the poorest states. The obligations in this Convention have been expanded in the 1998 Kyoto Protocol (190 States Parties) and the 2007 Bali Action Plan. The 1992 UNFCCC calls upon all parties, “taking into account their common but differentiated responsibilities,” to “promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices, and processes that control, reduce or prevent anthropogenic emission of greenhouse gases....” (art. 4). Article 10 of the Kyoto Protocol reiterates this obligation.

The notion of common but differentiated responsibilities reflects the fact that the developed world was the primary source of the GHG that have contributed to global warming. Article 3.1 of the UNFCCC thus states:

The Parties should protect the climate system for the benefit and present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.

Linking this statement of obligation to the right to development⁴⁷ means that the poorer developing nations should not unreasonably be required to reduce their present needs to protect the developed world’s future needs.

These obligations are likely to be implemented through some variation of the Clean Development Mechanism or a global “cap and trade” system. The process involves an entity in the developed world purchasing a GHG emissions reduction amount from a developing country entity. The buyer transfers funds to the developing country and in the process introduces more economic efficiency in reducing GHG emissions. Other regulatory measures, with or without incentives and subsidies, may encourage innovation in agriculture and industry. Investments in wind, solar and tide power are some of the current developments. Carbon sequestration is much

⁴⁴ Id. at 24.

⁴⁵ Id. at 58.

⁴⁶ Id. at 59.

⁴⁷ Declaration on the Right to Development, General Assembly Res. 41/128, 4 Dec. 1986.

less viable as an alternative at present. Biofuels have proved controversial, as discussed below, although they offer a renewable source of fuel. Sugar cane, maize, and algae are just some of the fuel sources being used.

Human Rights Obligations

International human rights law developed several decades before the emergence of environmental law and present-day concerns about climate change. All states have human rights obligations derived from membership in the United Nations and other international organizations, ratification of human rights treaties, and customary international law. The Universal Declaration of Human Rights,⁴⁸ adopted by the United Nations in 1948, defines the term “human rights” as used in the U.N. Charter. Given its date of adoption, it is not surprising to find that the Universal Declaration does not include any mention of environmental rights. The International Covenant on Civil and Political Rights (ICCPR)⁴⁹ and the International Covenant on Economic, Social and Cultural Rights (ICESCR)⁵⁰, both adopted by the U.N. in 1966, similarly omit reference to the environment. For states parties to these treaties, the corresponding obligations generally extend from each state towards those “within the territory or subject to the jurisdiction.”⁵¹ However, ICESCR Article 22 includes a “right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing, and housing, and to the continuous improvement of living conditions.” States parties are to “take appropriate steps to ensure the realization of this right, recognizing . . . the essential importance of international co-operation based on free consent.”

In sum, for the moment, there is no global human rights instrument that explicitly guarantees the right to a safe and healthy environment. Among non-binding instruments however, a significant number have included references to environmental rights or a right to an environment of a specified quality. At the UN, the Sub-Commission on Prevention of Discrimination and Protection of Minorities appointed a Special Rapporteur on Human Rights and the Environment in 1989, whose final report was delivered in 1994⁵². An annex to the report contains draft principles on human rights and the environment. The principles explicitly state that: “All persons have the right to a secure, healthy and ecologically sound environment.” Following the Special Rapporteur’s ground-breaking work, a divided UN Human Rights Commission decided in 1995 to appoint her as Special Rapporteur to study the adverse effects of the illicit movement and dumping of toxic and dangerous products and wastes and the enjoyment of human rights.⁵³ The

⁴⁸ Universal Declaration on Human Rights, G.A. Res. 217A (III), U.N. GAOR, 3d Sess., 1st plen. mtg., U.N. Doc. A/810 (Dec. 12, 1948) [hereinafter UDHR].

⁴⁹ International Covenant on Civil and Political Rights, G.A. res. 2200A (XXI), U.N. GAOR, 21st Sess., Supp. No. 16, U.N. Doc. A/6316 (Dec. 16, 1966). Though adopted in 1966, the ICCPR did not enter into force until 1976.

⁵⁰ International Covenant on Economic, Social, and Cultural Rights, G.A. res. 2200A (XXI), U.N. GAOR, 21st Sess., Supp. No. 16, U.N. Doc. A/6316 (Dec. 16, 1966) [hereinafter ICESCR]. The Committee on Economic, Social and Cultural Rights adopted an important General Comment, number 15, on the right to water in November 2002. The Committee noted that access to water is a prerequisite for the realisation of other human rights.

⁵¹ See Australia, Human Rights and Equal Opportunity Commission, Background Paper: Human Rights and Climate Change 2008.

⁵² Human Rights and the Environment : Final Report Prepared by Ms. Fatma Zohra Ksentini, Special Rapporteur, E/CN.4/Sub.2/1994/9, 6 July 1994

⁵³ Resolution 1995/81. The vote was 32 to 15, with six abstentions. The division was between developing countries (in favour) and developed countries (against).

Commission and later the Council that replaced it expanded this mandate through subsequent resolutions. A number of other Special Rapporteurs have also touched on issues relating to the environment in the course of their work, including the Special Rapporteur on the human rights of migrants, the representative of the Secretary-General on internally displaced persons, the Independent Expert on extreme poverty, and the Special Rapporteurs on the Right to Food and the Right to Health.

Recognized Links between Human Rights and Environment

The relationship between the quality of the human environment and the enjoyment of basic human rights was first recognised by the UN General Assembly in the late 1960s⁵⁴.

In 1972, the first United Nations Conference on the Human Environment, held in Stockholm, made a direct link between the environment and human rights. At the concluding session of the Conference, the participants adopted a final declaration whose preamble proclaimed that:

*“Man is both creature and moulder of his environment, which gives him physical sustenance and affords him the opportunity for intellectual, moral, social and spiritual growth...both aspects of man’s environment, the natural and the man-made, are essential to his well-being and to the enjoyment of basic human rights – even the right to life itself”*⁵⁵

Principle 1 of the Stockholm Convention established a foundation for linking human rights and environmental protection, declaring that:

“Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being”.

In Resolution 45/94 the UN General Assembly recalled this language, stating that all individuals are entitled to live in an environment adequate for their health and well-being. The resolution called for enhanced efforts to ensure a better and healthier environment.

In the three decades since the Stockholm Declaration, international legal instruments and decisions of human rights bodies have reformulated and elaborated the links that were established by these first declaratory statements. A decade after Stockholm, the World Charter on Nature explicitly referred to the right to access to information and the right to participate in environmental decision-making.⁵⁶ In 1992, the Rio Declaration acknowledged the right to a healthy and productive life in harmony with nature and the right of access to environmental information and of public participation in environmental decision-making⁵⁷. More recently, the

⁵⁴ UN General Assembly Resolution 2398 (XXII) (1968)

⁵⁵ Stockholm Declaration of the United Nations Conference on the Human Environment, 16 June 1972, UN Doc. A/CONF.48/14/Rev.1 at 3 (1973)

⁵⁶ World Charter for Nature, paras 15-16, 23

⁵⁷ Rio Declaration on Environment and Development, Principles 1 and 10 (1992)

2002 World Summit on Sustainable Development in Johannesburg acknowledged the consideration being given to the links between environment and human rights⁵⁸.

Following the WSSD, the UN Commission on Human Rights, at its first session following the Summit, adopted a Resolution on the subject of “human rights and the environment as part of sustainable development.”

Three broad approaches conceptualize the linkage between human rights law and environmental law⁵⁹. The first, classically human rights approach, is perhaps closest to that of the Stockholm Declaration. It understands that protecting environmental quality is a *pre-condition to the enjoyment of internationally recognised human rights, especially the rights to life and health*. Environmental protection is thus an essential instrument in the effort to secure the effective universal enjoyment of human rights. In the context of climate change, this means examining the extent to which climate change interferes with the enjoyment of human rights and mitigating the negative impacts as fully as possible.

The second approach, the environmental approach, is most common in international environmental agreements adopted since 1972. Instead of viewing environmental protection as an essential element of human rights, *it views certain human rights as essential elements to achieving environmental protection*. This approach is well illustrated by the Rio Declaration on Environment and Development, adopted at the conclusion of the 1992 Conference of Rio de Janeiro on Environment and Development. It formulates a link between human rights and environmental protection largely in procedural terms, declaring in Principle 10 (mirroring the wording used in the 1998 Aarhus Convention) that access to information, public participation and access to effective judicial and administrative proceedings, including redress and remedy, should be guaranteed because “environmental issues are best handled with the participation of all concerned citizens, at the relevant level”.

The third and most recent approach is integrative: it views the links between human rights and environmental protection as indivisible and inseparable and thus posits the right to an environment of a specific quality as an independent substantive human right. At present, examples of this approach are found mainly in national law and in regional human rights and environmental treaties. Most formulations of the right to environment qualify it by adjectives such as “healthy”, “safe”, “secure”, “clean”, or “ecologically balanced.”

More than 100 constitutions throughout the world⁶⁰ guarantee a right to a clean and healthy environment, impose a duty on the State to prevent environmental harm, or mention the protection of the environment or natural resources.⁶¹ Over half of these constitutions, including

⁵⁸ Johannesburg Plan of Implementation, para. 169. An earlier EU proposal to “acknowledge the importance of the interrelationship between human rights promotion and protection and environmental protection for sustainable development” was rejected in favour of this more prosaic formulation.

⁵⁹ See “The Links Between International Human Rights Guarantees and Environmental Protection”, Dinah Shelton, George Washington University Law School, paper for University of Chicago, Center for International Studies (April 16, 2004)

⁶⁰ Including the new draft Constitution of the Republic of Maldives

⁶¹ Examples include : Angola (“all citizens shall have the right to live in a healthy and unpolluted environment”); Argentina (“all residents enjoy the right to a healthy, balanced environment which is fit for human development”);

nearly all adopted since 1992, explicitly recognise the right to a clean and healthy environment. Ninety-two constitutions impose a duty on the government to prevent harm to the environment.

Many legal cases have emerged where deteriorating environmental conditions have been asserted to violate rights guaranteed by constitutional law, international law, or statutory provisions. Even in countries where there is no express right to a healthy environment, courts have developed broad interpretations of other rights to cover environmental degradation. For example, in Bangladesh, the Constitution lacks an explicit right to a healthy environment, but the Supreme Court has interpreted the right to life as including the protection and preservation of the environment and ecological balance.⁶² In India, a series of judgements between 1996 and 2000 responded to health concerns caused by industrial pollution in Delhi⁶³. In some cases, the courts ordered companies with especially harmful practices to cease operations. In Costa Rica, a court stated that protecting the rights to health and to the environment is necessary to ensure the right to life. South African courts have deemed the right to environment itself to be justiciable.

Regional human rights bodies in Europe, the Americas and Africa have examined cases alleging violations of fundamental rights due to environmental harm. The Charter of the Organization of American States contains a provision requiring member states to “refrain from practicing policies and adopting actions or measures that have serious adverse effects on the development of other Member States.”⁶⁴ The Charter further recognizes the right to material well-being and spiritual development, “under circumstances of liberty, dignity, equality of opportunity, and economic security.”⁶⁵ The Inter-American Human Rights Commission established a link between environmental quality and the right to life in response to a petition brought on behalf of Brazil’s Yanomani Indians and has subsequently enhanced the protections afforded indigenous and other groups against environmental harm.

In Europe, those who have suffered from environmental harm have often complained that the resulting conditions violate the right to privacy and home guaranteed by the article 8 of the 1950 European Convention on Human Rights and Fundamental Freedoms. The European Court of Human Rights has held that environmental harm attributable to state action or inaction which has significant injurious effect on a person’s home or private and family life constitutes a breach of Article 8(1). Other cases have successfully invoked the right to life guarantee to complain of government inaction in the fact of life-threatening environmental conditions.

In Africa, the 1981 African Charter on Human and Peoples Rights was the first international human rights instrument to contain a guarantee of environmental quality. In a seminal case the African Commission on Human Rights gave the first full exposition of a human rights approach to environmental protection. Acting on a petition filed by two NGOs on behalf of the people of Ogoniland, Nigeria, the Commission found Nigeria to have breached its obligations to respect,

Azerbaijan (“everyone has the right to live in a healthy environment”); and Brazil (“everyone has the right to an ecologically balanced environment”)

⁶² See *Dr. Mohiuddin Farooque v. Bangladesh*, represented by the Secretary, Ministry of Irrigation, Water Resources and Floor Control and Others (1996)

⁶³ See *Charan Lal Sahu vs. Union of India*, AIR 1990 SC 1480 (1991)

⁶⁴ Charter of the Organization of American States art. 1-2, Apr. 30, 1948, 2 U.S.T. 2394, 119 U.N.T.S. 3 (entered into force Dec. 13, 1951), art. 35.

⁶⁵ *Id.* art. 45 (a).

protect, promote and fulfil rights guaranteed by the African Charter on Human and Peoples Rights including Article 24, the “right of peoples to a general satisfactory environment favourable to their development”.

In respect to climate change, it is important to examine the extent to which there is a plausible case for transboundary human rights obligations. The Committee on Economic Social and Cultural Rights has identified obligations of cooperation⁶⁶ that could be applicable to the case of climate change. The Committee on the Rights of the Child in General Comment 5 was more assertive, taking the position that states which ratify human rights conventions “take upon themselves obligations not only to implement [them] within their jurisdiction, but also to contribute, through international cooperation, to global implementation.”⁶⁷ Addressing this issue in respect to climate change, the 2009 OHCHR Report proposes four extraterritorial obligations accepted by states parties to the ICESCR.

1. Respect rights, i.e., refrain from interfering with the enjoyment of human rights in other countries;
1. Protect rights, i.e. take measures to prevent third parties over which they hold influence from interfering with the enjoyment of human rights in other countries;
2. Take steps through international assistance and cooperation, depending on the availability of resources, to facilitate fulfilment of human rights in other countries, including disaster relief, emergency assistance, and assistance to refugees and displaced persons
3. Ensure that human rights are given due attention in international agreements and that such agreements do not adversely impact human rights.⁶⁸

Taken together, these obligations suggest that all states that are party to the ICESCR have a legal obligation through international cooperation to reduce emissions to levels consistent with the full enjoyment of human rights in all countries. In addition, they should fund adaptation measures in vulnerable countries (depending on the availability of resources), and ensure that any international climate change agreement is consistent with respecting and ensuring the enjoyment of internationally-guaranteed human rights.

⁶⁶ The Committee on Economic, Social and Cultural Rights, in General Comment 3, for example, stated: [I]n accordance with Articles 55 and 56 of the Charter of the United Nations, with well-established principles of international law, and with the provisions of the Covenant itself, international cooperation for development and thus for the realization of economic, social and cultural rights is an obligation of all States. It is particularly incumbent upon those States which are in a position to assist others in this regard. . . . [I]n the absence of an active programme of international assistance and cooperation on the part of all those States that are in a position to undertake one, the full realization of economic, social and cultural rights will remain an unfulfilled aspiration in many countries. In this respect, the Committee also recalls the terms of its General Comment 2 (1990). OHCHR, U.N. Comm. on Econ., Social and Cultural Rights [UNCESCR], General Comment 3: The Nature of States Parties Obligations, P 14, U.N. Doc. E/1991/23 (Dec. 14, 1990).

⁶⁷ OHCHR, U.N. Comm. on the Rights of the Child [CRC], General Comment 5: General measures of implementation for the Convention on Rights of the Child, P 7, U.N. Doc. CRC/GC/2003/5 (Nov. 27, 2003).

⁶⁸ OHCHR Report, *supra* note 30, P 86; see, e.g., UNCESCR, General Comment 12: The Right to Adequate Food, U.N. Doc. E/C.12/1999/5 (May 12, 1999); UNCESCR, General Comment 13: The Right to Education, U.N. Doc. E/C.12/1999/10 (Dec. 8, 1999); UNCESCR, General Comment 14: The Right to the Highest Attainable Standard of Health, U.N. Doc. E/C.12/2000/4 (Aug. 11, 2000); UNCESCR, General Comment 15: The Right to Water, U.N. Doc. E/C.12/2002/11 (Jan. 20, 2002).

2. Human Rights and Climate Change

Resolutions of both the UN Human Rights Council and the OAS General Assembly have moved incrementally towards recognizing the potential implications of a degraded environment on the effective enjoyment of human rights. Similarly, both of these bodies have recognized that climate change, as a change in the environment, has the potential to impede the effective enjoyment of many basic human rights. However, the UN Human Rights Council resolutions clearly went further than the OAS resolutions to link climate change to numerous specific human rights.

Is there a normative framework that governs responses to climate change – or requires technology transfer in response to the needs and demands of both the developed and the developing world? Principle 9 of the Rio Declaration provides that “States should cooperate to strengthen endogenous capacity-building for sustainable development by improving scientific understanding through exchanges of scientific and technological knowledge, and by enhancing the development, adaptation, diffusion and transfer of technologies, including new and innovative technologies.” Binding instruments are similar, if stronger in their statements of obligation, including the UNFCCC, art. 4, and the Kyoto Protocol, art. 10. While no human rights instrument mentions technology transfer, it may be possible to find it as a derivative right from those existing rights that can only be enjoyed if there is technology transfer. These may involve either mitigation or adaptation. In mitigation, technology may be required to ensure that others can honor their mitigation responsibilities without compromising their realization of human rights.

The global poor are likely to be disproportionately at risk because they earn their living in ways which are more vulnerable to the effects of climate change (e.g. agriculture and fishing) and in places susceptible to sea level rise. The poor are also more at risk from diseases and less able to adapt. The World Health Organization reported in 2004 that looking back to 2000 77,000 deaths from malnutrition could be attributable to climate change and 27,000 from malaria due to the same cause. Putting all the deaths together that could be statistically associated with climate change, there were 166,000 avoidable deaths.

Mitigation measures may hinder their ability to develop out of poverty by increasing energy costs beyond their ability to access. Already “meeting human needs in many instances is causing environmental degradation, which in turn threatens the ability to meet present and future needs. For example, increased agricultural production can be achieved through increased use of nitrogenous fertilizers, irrigation, or the conversion of natural grasslands and forests to croplands. However, these changes can affect the Earth’s climate through the release of greenhouse gases, lead to land degradation through erosion and salinization of soils, and contribute to the loss of biodiversity and reduction of carbon sequestration through the conversion and fragmentation of natural ecological systems.”⁶⁹

⁶⁹ Robert T. Watson et al., ‘Summary for Policymakers’ in Robert T. Watson & the Core Writing Team, *Climate change 2001: Synthesis Report: Contribution of Working Groups I, II and III to the third Assessment Report of the Intergovernmental Panel on Climate Change*(Cambridge: Cambridge University Press 2001) 29.

Failure to Act: Do Greenhouse Gas Emissions Violate Human rights

On December 7, 2005, the Inuit people filed a petition with the Inter-American Commission on Human Rights, in which they argued that the failure of the United States government to regulate the causes of global climate change had violated their internationally recognized human rights.⁷⁰ The United States is the leading emitter of GHGs and is responsible for approximately twenty-five percent of worldwide GHGs that cause global climate change. The petition marked the first attempt by a group to directly link internationally recognized human rights to global climate change. The Inuit people's petition argued that because the United States government failed to adequately regulate greenhouse gas emissions within its jurisdiction, the United States has contributed significantly to the phenomenon of global climate change whose consequences have impacted the Arctic environment and resulted in violations of the Inuit people's internationally protected human rights.⁷¹ The petition invoked a number of rights contained within the American Declaration on the Rights and Duties of Man, to which the United States, as an OAS member state, is subject:⁷² the right to life, the right to property and home, the right to health and well-being, and freedom of movement.⁷³ The petition also cited the obligations contained in U.N. Framework Convention on Climate Change to evidence the breach of international obligations by the U.S.⁷⁴

The legal theory under which the United States is expected to implement a mandatory GHG emission reduction system involves the American Declaration, the UNFCCC and customary international law. The Commission has stated that the American Declaration “ should be interpreted and applied in [the] context of developments in the field of international human rights law . . . and with due regard to other relevant rules of international law applicable to member states . . .” The United States has specifically accepted the transboundary pollution principle, which provides that:

Under principles of international law, as well as the law of the United States, no state has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein⁷⁵

The transboundary pollution principle requires that states act to ensure that their activities do not cause significant transboundary harm in any form. The Inuit also cited the International Covenant on Civil and Political Rights, the International Convention on Economic, Social, and Cultural Rights, and the United Nations Framework Convention on Climate Change. Under these instruments, the United States has committed to promote universal respect for and observance of human rights, including the right to self-determination and the benefits of culture, to take steps for the conservation, development, and diffusion of culture, and to develop and implement policies aimed at returning GHG emissions to 1990 levels and minimizing anthropogenic interference with the climate system. The petition sought to have the United States take

⁷⁰ Abate, *supra* note 8, at 7; Aminzadeh, *supra* note 5, at 239; Middaugh, *supra* note 6, at 180.

⁷¹ Aminzadeh, *supra* note 5, at 239.

⁷² Abate, *supra* note 8, at 46; Aminzadeh, *supra* note 5, at 239.

⁷³ Abate, *supra* note 8, at 48; Aminzadeh, *supra* note 5, at 239.

⁷⁴ Abate, *supra* note 8, at 47-48.

⁷⁵ Trail Smelter Arbitration

immediate and effective action to protect the rights of the Inuit, including the following measures:

Adopt mandatory measures to reduce GHG emissions;

Consider the impacts of its GHG emissions on the Arctic environment and peoples before approving all major government actions;

Establish and implement a plan to protect Inuit culture and resources and mitigate any harm to these resources caused by its GHG emissions;

Implement a plan to provide assistance necessary for Inuit to adapt to climate change related impacts that cannot be avoided.

The Commission dismissed the Inuit people's petition in November of 2006, citing insufficient information for making the determination of whether the facts alleged in the petition amounted to violations of any of the rights protected by the Declaration.⁷⁶ The Commission, however, granted the Inuit people's request for a hearing, held March 1, 2007,⁷⁷ at which they presented evidence demonstrating the connection between global climate change and international human rights.⁷⁸ As the results in the Inuit petition suggest, it is very difficult to make a case that climate change represents a violation of human rights. OHCHR in fact concedes this point in its report: "The physical impacts of global warming cannot easily be classified as human rights violations, not least because climate change-related harms often cannot clearly be attributed to acts or omissions of specific States."⁷⁹ Moreover, even if responsibility and harm could be established, existing human rights law is primarily concerned with how a government treats its own citizens and others living within its territory and under its jurisdiction. It therefore provides no useful kind of accountability or redress framework for situations arising from phenomena such as climate change, where responsibility and harm are largely trans-national.

Difficult, but not impossible. For example, the ICHRP has argued that "specific actors are responsible for climate change--namely those who overuse carbon fuels, albeit in highly varying degrees.... The question is thus whether this group can be broken down into definite and identifiable parties to whom responsibility can be attributed in a specific and discrete manner." Climate Change and Human Rights, *supra* note 4, at 65. Another way of assigning responsibility and harm is suggested by *Massachusetts v. Env'tl. Prot. Agency*, 549 U.S. 497 (2007). Here, EPA was found responsible for harms caused by greenhouse gases because it was aware of the potential for harm and had the power to regulate emissions, but did not act. If it had acted, some injuries, both past and future, might conceivably have been avoided. In its OHCHR submission, the United States obliquely recognizes the possibility that "novel theories of responsibility" might be devised, leading to "climate-related human rights claims ... gain[ing] traction."⁸⁰

⁷⁶ *Id.* at 46; Aminzadeh, *supra* note 5, at 239.

⁷⁷ Press Release, Inter-American Commission on Human Rights to Hold Hearing on Global Warming (Feb. 2, 2007), available at <http://www.earthjustice.org/news/press/007/inter-american-commission-on-human-rights-Hearing-on-Global-Warming.html>. Both audio and video recordings of the hearing can be accessed at the commission's website. See Inter-Am. Comm'n on Hum. Rts, Org. of Am. Sts., Public Hearings of the 127 Period of Sessions, Thur., Mar. 1, 2007 (Select a Date), Hearing on Human Rights and Global Warming, <http://www.cidh.org/audiencias/select.aspx> (last visited Oct. 12, 2007).

⁷⁸ Abate, *supra* note 8, at 46.

⁷⁹ OHCHR Report, p. 26

⁸⁰ U.S. OHCHR Report Submission, *supra* p. 96.

Like *Oneryildiz*, the case of *Budayeva and Others v. Russia*,⁸¹ concerned governmental knowledge of hazards and the failure to act upon that knowledge. The difference was that the latter case involved repeated natural disasters rather than hazards originating in human activities. The standard of care did not differ appreciably, however. Governmental authorities aware of mudslide hazards in a mining district failed to take reasonable precautions, with resulting deaths in a village and loss of property. They pleaded violations of Article 2 (right to life) and Protocol 1, Article 1 (right to property). The Court held the government responsible for the loss of life, but found that the causal link was not established in respect of the latter claims. The applicants could not demonstrate that “but for” the official failures to act, their property would have been safe. The July 2000 mudslide was of unprecedented severity.

Looking at the substantive aspect of the government’s obligations respecting dangerous activities, the Court placed special emphasis on the adoption of regulations geared to the special features of the activity in question, particularly with regard to the level of the potential risk to human life.⁸² Such regulations must govern the licensing, setting up, operation, security and supervision of the activity and must make it compulsory for all those concerned to take practical measures to ensure the effective protection of citizens whose lives might be endangered by the inherent risks.⁸³ Supervision and monitoring are also required. The choice of particular practical measures is in principle a matter within the State’s margin of appreciation and the Court will seek to avoid placing an impossible or disproportionate burden on authorities.⁸⁴

After the Court requested the government to provide information on its regulatory framework, land-planning policies and specific safety measures implemented at the relevant time to respond to natural hazards, the Court found that the measures were limited to a mud-retention dam and collector that were not adequately maintained. The Court held that there was no justification for the failure to act regarding foreseeable mortal risks to the residents of the town and there was a causal link between that failure and the death and injuries suffered in the mudslide. Accordingly there was a violation of Article 2.

The wide margin of appreciation afforded in environmental matters, due to their technical complexity and the variations in State priorities and resources, is given even greater weight in the sphere of emergency relief after the fact, in responding to weather events. The Court held that the State’s positive obligation is less in the context of natural disasters, “which are as such beyond human control,” than in the sphere of dangerous activities of a man-made nature. The right to peaceful enjoyment of possessions, which is not absolute, requires only that the state do what is reasonable in the circumstances.⁸⁵ The standard of care is different and higher when the risk involves potential loss of life. The State in this situation has a positive obligation to do everything within the authorities’ power in the sphere of disaster relief for the protection of the right to life. The origin of the threat and the extent to which one or another risk

⁸¹ *Budayeva and Others v. Russia*, App. No. 15339/02 & Ors (20 March 2008).

⁸² *Id.*, para. 132.

⁸³ *Id.*

⁸⁴ *Id.*, para. 135.

⁸⁵ *Id.*, at para. 174. While the Court found that the measures taken by the state were negligent, it found the causal link was not well-established. The mudslide of 2000 being exceptionally strong, the Court said it was unclear whether a functioning warning system or proper maintenance of the defence infrastructure would have mitigated the damage.

is susceptible to mitigation are factors to be evaluated in determining the scope of the state's positive obligations.⁸⁶ The Court found that the authorities had been given warnings about the risks, including the state of disrepair of the dam, and had failed to provide resources for strengthening the defense infrastructure – resources that became available immediately after the mudslide. The government provided no explanation and the Court concluded that the restoration of the defense infrastructure between 1999 and 2000 was “not given proper consideration by the decision-making and budgetary bodies prior to the hazardous season of 2000.”⁸⁷ Nor were any alternative land-planning policies being implemented or monitoring stations set up. The Court noted that the public's procedural right of information can only be implemented if the government obtains the relevant information, which in this case was indispensable for ensuring the residents' safety. The authorities' failure to ensure the functioning of an early warning system was thus also unjustified.

Human rights offers 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. It is in this progressive sense that the contemporary value of linking human rights and climate change is to be found, and it is in this progressive sense that the various benefits of a human rights approach, as enumerated earlier, come to the fore. In short, in the limited sense understood by the United States, there are clear theoretical difficulties in applying human rights-based solutions to climate change. However, seen in the broader sense as a set of values and norms from which to draw inspiration, a human rights-approach can potentially add much value to the existing politico-scientific climate change discourse.

Human Rights and Mitigation Measures

The core issue is how to ensure that mitigation takes place in a way that does not compromise human rights. Human rights groups are generally suspicious of “pre-emptive” and “preventive” measures, which can be used repressively by government. The climate change regime now under construction, however, is largely premised precisely on the pre-emption of impacts/violations that have not taken place—and are in many cases entirely novel. The ongoing climate change “dialogue”, dominated as it is by the projection of current policy solutions to pre-empt future problems, does not present an obvious space for human rights input. It is argued, though, that technology transfer and assistance is needed because without it some states will not be able to engage in the mitigation necessary to combat climate change or will only be able to do so in ways that sacrifice some human rights. Energy is required for subsistence and any reduction that limits access to or fulfilment of basic needs may run afoul of human rights obligations. Conversely, respect for human rights can be consistent with GHG reductions through technology that, e.g. reduced methane production from rice crops.

Yet prevention and pre-emption are as fundamental to human rights protection as they are to any legal mechanism. Law enforcement and judicial systems are themselves deterrence mechanisms, warding off future violations through a promise of punishment. From this perspective, the distinction between facts (in human rights) and probabilities (in climate change) is rather one of degree: the probability of a given human rights violation taking place too can—like a predicted

⁸⁶ *Id.*, at para. 137.

⁸⁷ *Id.*, at para. 149.

climate change impact—increase or diminish over time according to the relative robustness of the institutions designed to prevent it. Seen from this perspective, a significant portion of human rights advocacy is indeed concerned with hypotheticals: new laws, different (more independent) judiciaries, better (trained) police, and so on, as a means to pre-empt the probability of future rights abuses and prevent them from ever happening.

But there is a difference. Whereas human rights prevention mechanisms are familiar, and can be pictured and planned following known designs even where they do not yet exist, those needed to prevent climate change, by contrast, are speculative; they are themselves as hypothetical as the impacts they aim to halt. This has lent climate change debate a highly dynamic dimension, reliant on multiple feedback loops. Predicted impacts are constantly readjusted in line with different scenarios corresponding to varying assumptions about mitigation/ adaptation/ development paths, each of which in turn involves differing baseline assumptions and impact ranges. Tweaking any one aspect of a given model—scientific, economic or social—leads to domino alterations elsewhere. Human rights impacts are a relevant aspect of that dynamism, subject to different levels of protection and fulfilment under different scenarios, but to date they have rarely been factored in explicitly. To mobilise the policy utility of human rights in the construction of a climate change regime, then, requires that likely human rights impacts and outcomes be injected into the dynamic forecasting that already characterises climate change modelling.

Where coastal cities are flooded, or desert regions suffer drought, or food shortages become severe or vector-borne diseases flourish, it is possible to speak of rights risks—and if these outcomes result in migration or conflict, further rights are threatened.⁸⁸ Even under best case scenarios today, certain impacts cannot be avoided, and these in turn will involve human rights consequences. The utility of integrating human rights scenarios into climate change models as an analytical tool would lie in the capacity to rethink climate change impacts explicitly in terms of likely human harms, threshold levels, future duty-bearers, institutional adequacy and redress mechanisms.⁸⁹

Climate change scenarios do not at present include any explicit assessment of the human rights consequences of climate impacts—including under different impact and mitigation scenarios. Thinking ahead to future human rights impacts could be helpful in constructing a research agenda for narrowing and refocusing policy priorities. One way to organise data collection and modelling of this kind might be to think in terms of human rights *thresholds*: levels of protection for individual rights which can be regarded as the minimum acceptable outcome under a given policy scenario. Embedding human rights thresholds might first involve reviewing existing climate change impact scenarios to identify specific human costs across time and in different places, and then asking how countries are equipped, from a capacity, resource and institutional perspective, to respond. Down the road, real-time monitoring would need to be supplemented by predictive forecasting of impacts upon human rights thresholds under a series of scenarios, further factoring in mitigation options and adaptive capacities.

⁸⁸ CITE

⁸⁹ Relevant here are, for example, the General Comments of the UN’s Committee on Economic Social and Cultural Rights. See, for example, UN Doc. E/C.12/2002/11, *General Comment No. 15 (2002), The right to water (arts. 11 and 12 of the International Covenant on Economic, Social and Cultural Rights)*, para. 8 of which highlights the link between the “environmental hygiene”, safe drinking water and health, stating among other things that “States parties should monitor and combat situations where aquatic eco-systems serve as a habitat for vectors of diseases wherever they pose a risk to human living environments.”

Straightforward as it may sound, this is far from easy. There is nothing in human rights reporting, comparable to the close monitoring and reporting on glacier and atmospheric changes in specific places that has led to 50 years and more of records. Nothing like the panoply of measurement tools that scientist take for granted—not to mention the complex of tested assumptions, empirical data and computer generated modelling techniques that have been so critical in informing climate change scenarios—exists in human rights work. Clearly the effort will require thought and investment, especially in those countries likely to be most affected and least equipped to conduct monitoring of this sort. It will require the development of new tools and techniques and a vast effort in training and capacity building, because so much of the information needed must be gathered locally at multiple locations. Moreover, although each of the building blocks might appear quite simple (as is the measurement of gas concentrations, ocean temperatures, rainfall, and so on, taken individually), collating it cogently will be enormously difficult. Yet without this effort, foreseeing and managing the human consequences of adaptation and mitigation policies will be guesswork at best.⁹⁰

Viewing climate change impacts in terms of human rights thresholds, even speculatively, raises a number of questions that have barely been touched upon in the climate change literature to date. Take, for example, the question of a “dangerous” level of global warming. The present consensus on an average rise of no more than 2 degrees C from preindustrial levels may appear reasonable from an aggregate perspective, but will appear much less so for those for whom such an increase involves irretrievable losses to livelihood and culture, or for those situated in places likely to experience warming far higher than average.⁹¹ The questions increase once it is acknowledged that warming is actually highly unlikely to be kept below the “dangerous” 2 degrees. The pool of individuals certain to be affected grows with each incremental increase in the global level of warming. Should all those caught in this pool be compensated? If so by who? Will they have viable claims? Or would it make more sense, having identified the particular persons at risk, to channel resources in advance towards those solutions best suited to warding off their future predicament.

Human rights-centred climate change scenarios would have highly practical applications. Three such come immediately to mind. On the basis of forward-looking human rights analyses, a robust case could be made for amending and improving relevant areas of international law. Whereas progress on international human rights law has been vanishingly incremental for decades, the scope for reorganisation of international rights and duties is far stronger within the context of international climate change negotiations, given the enormous incentives to get it right. Second, the rhetorical strength of human rights language can add considerable normative traction to existing arguments in favour of strong mitigation and adaptation policies. This is so for several reasons. For one, despite disagreements, the core values of human rights are widely accepted by societies and governments. They provide something close to an international value system. For another, human rights are framed relatively precisely, as a result of intensive international negotiation. By and large, established human rights standards are realistic and practical documents that are designed to be applied by governments. Indeed, for human rights groups and

⁹⁰ A useful model here might be the French early warning system introduced following the severe heatwaves of 2003 that killed thousands. MORE ON THIS.

⁹¹ It is a further irony that on many predictions, the sum of the effects of a rise between 2 and 3 degrees C will possibly be beneficial, on balance, in many OECD countries, while such a rise will already be devastating in other parts of the world.

activists to argue for an effective climate change regime is a natural fit, given that the consequences of failing to produce one are likely to be catastrophic from a rights perspective. Nevertheless, since mitigation and adaptation can both be achieved in ways that can themselves undermine human rights, simply arguing for effective regimes is not enough. The more difficult but also more useful task—and this is the third application—would be to ensure that mitigation and adaptation policies account for human rights consequences from the outset. Today, climate change mitigation and adaptation discourse is largely silent about rights. It may be useful, from the point of view of both climate negotiations and human rights protections to investigate the regimes currently on the table with a view to identifying their strengths and weaknesses from a human rights perspective, and to making suggestions that might improve them.

[Fourth point: human rights guides a focus on the marginalised and those often discriminated against]

The human rights dimensions of mitigation policies

Perhaps inevitably, the greater part of climate change negotiation is devoted to mitigation—that is, to policy steps needed to ensure that global warming as a whole does not result in “dangerous anthropogenic interference” with the climate, as per the UNFCCC (“dangerous” is generally understood to mean anything higher than 2 degrees C above preindustrial levels).⁹² Before investigating the human rights dimensions of mitigation policies, it might be useful to set down briefly the scientific and policy context, which is done in the following two paragraphs.⁹³

Greenhouse gas emissions are currently estimated at 430 ppm CO₂e (ppm CO₂e = “parts per million of Carbon Dioxide equivalent”), almost double preindustrial levels, and rising fast. This concentration of greenhouse gases will lead to some global warming, although the exact amount is subject to probability estimates. By stabilising emissions at between 450ppm and 550ppm, there is a good probability of limiting average temperature rises to 2—and certainly no more than 3—degrees. (At 450ppm, the probability of temperatures higher than 2 degrees is much reduced, but the costs of achieving this outcome are thought to be unfeasibly high; at 550ppm, there is a considerably higher chance of overshooting 2 degrees, but the costs are thought “reasonable”). To achieve stabilisation at 550ppm, global emissions of greenhouse gases must peak in the next 20 years and then fall sharply by 2050, to levels of around 50% of current concentrations.

However over the same period, the world’s population is expected to increase by about 50% to 9 billion, while economic growth, particularly in fast growing economies such as China and India, is expected to drive energy demand dramatically. Viewed in this light, the mitigation task is truly gargantuan. And the need for swift and focused adaptation preparations too is evident.

Greenhouse gas emissions can be reduced in a number of ways. At present, negotiations are focused on a framework that will ensure international coordination to reach global targets, by adopting individual country targets, while respecting the right of individual countries to choose the mix of options for meeting their overarching obligations. Mitigation strategies may include fuel switching, carbon taxes, deforestation measures and carbon emissions trading. Any functional global regime will necessarily involve a high degree of international coordination.

⁹² For a discussion, see the Stern Review, Part III, Chapter 13, 289.

⁹³ This account relies on the Stern Review, part III, especially Chapters 7-10. Similar information is provided at greater length in IPCC AR4, WG III, Chapter 1-3. It should be noted that Nicholas Stern, author of the Stern review, later stated that the figures and conclusions reached in the Review were overly optimistic. Similar statements have been made about the IPCC AR4 by its chairperson Rajendra Pachauri.

One widely accepted principle, entrenched in the UNFCCC is that developed countries—historically by far the greater contributors to the problem—have greater obligations to mitigate than developing countries. Nevertheless, developing countries too must necessarily move towards low-carbon economies. Indeed, as it is cheapest and most efficient to make cuts in developing countries—for a number of reasons, but in the main because they may not yet be committed to carbon-intensive economies—it is increasingly important to high-emitting countries too that any global regime includes actions in developing countries.⁹⁴ While there is general consensus that developing countries should not have to compromise on their future economic growth, there is little agreement on how absolute global cuts can be achieved while growth continues.

What implications does the choice of mitigation policies have for human rights? If successful, any regime—or mix of regimes—that involves the reorientation of capacities and resources on the scale required to meet the threat of climate change must impact the protection of human rights, albeit more in some places than others. Whatever the mix, in other words, it will, if effective, affect the generation of and access to resources of countless individuals and communities, and will reorient the policy choices available to governments everywhere. Climate change mitigation policies will profoundly influence the allocation and use of scarce resources, and will do so far into the foreseeable future—and indeed for the very long term. Since human rights protection and fulfilment depend upon the creation of and access to resources, some restructuring of priorities and capacities is inevitable under the severe development constraints of most climate change mitigation scenarios. This is especially true given the immense scale of transformation entailed in transiting to a low-carbon world. In short, climate change mitigation efforts will tend to fix national development paths over the long term, and these in turn will tend to entrench the capacity to fulfil basic human rights from country to country.

This linkage between climate change mitigation, development paths and human rights fulfilment is recognised explicitly in IPCC AR4:⁹⁵

Development paths underpin the baseline and stabilization emissions scenarios discussed [elsewhere in the report] and are used to estimate emissions, climate change and associated climate change impacts. For a development path to be sustainable over a long period, wealth, resources, and opportunity must be shared so that all citizens have access to minimum standards of security, human rights, and social benefits, such as food, health, education, shelter, and opportunity for self-development.

Ultimately—as the IPCC report here acknowledges without elaboration—the ability to orient any mitigation policy *depends* upon the informed prioritisation of acceptable social outcomes, insofar as possible, human rights among them. Human rights fulfilment depends upon development capacity, and that consideration must in turn guide the choice of paths towards carbon stabilisation. Latent within this view is the understanding that human rights protection is resource intensive.⁹⁶ It is not so much a question of a right *to* development, but a more basic concern—without development there can only be limited fulfilment of human rights.⁹⁷

⁹⁴ Stern Review, Part III, especially 245-6; 239; and 203-205 (on the lock-in effect of capital investment).

⁹⁵ IPCC AR4, WG III, 696.

⁹⁶ For a good account of this argument in full, see Stephen Holmes and Cass Sunstein, *The Cost of Rights: Why Liberty Depends on Taxes*, Norton & Co. (1999). [Has Sen written on this?].

⁹⁷ See Paul Baer, Tom Athanasiou and Sivan Kartha, *The Right to Development in a Climate Constrained World*, Heinrich Böll Foundation (2007), 23:

[T]here is no road to development, however conceived, that does not greatly improve access to energy services. Yet, as economies are now structured, as development is now envisioned, and as long as we rely on today's energy technologies, this will imply increases in CO2 emissions that are entirely incompatible with a precautionary climate policy. And thus our dilemma: There is simply not enough "environmental space" for the still-poor to develop in the same way – or in anything like the same way – as that which was taken by the already-rich.

Moreover, although the consensus position is that any mitigation strategy will have distributional consequences, to date these have remained largely underexplored. The fourth IPCC report is explicit on this point too: whereas distributional outcomes are one of the four key criteria appropriate in evaluating any mitigation policy, comparison along this criterion “has proved difficult—and ranking impossible” because, according to the report’s authors, assessment is inevitably subjective.⁹⁸ For sure, these are complex questions that do not lend themselves to easy analysis. Yet human rights standards and thresholds may provide a way to manage the subjectivities of assessing future distributional impacts. If a global regime goes ahead without explicit attention to human rights consequences, it is not only likely to miss an opportunity to promote and fulfil human rights, but it risks remaining ignorant of possible ill consequences that might otherwise be foreseen and averted. Needless to say, no such prediction can ever be definitive. Any guidance available from increased information will be necessarily rough, and will be prone (as is much climate-related prediction) to unexpected feedback effects. It will act as a set of pointers, not a formula; a means of eliminating options likely to have devastating consequences, not of generating some sort of social “blueprint”.

It might therefore be thought incumbent upon those with human rights expertise to think through the human rights consequences of any given mix of mitigation strategies—both at national, but more fundamentally at international level—given that the effects will be profound, of long duration, and probably irreversible. At national level, for example, what will be the consequences in human rights terms of large forest conservation efforts or biofuel cultivation? That is, what communities will be affected and in what ways? Do they have institutional forms of redress in case of rights violations? Do they have a voice in constructing policies? Can longterm development be maintained under conditions of carbon attenuation? If hard choices are to be made, how will they be arrived at? At international level, how will differential access to the global carbon dump affect local development paths?⁹⁹ If negatively, to what extent have compensatory mechanisms been built in and will they reach the appropriate targets and levels? In principle the likely human rights/developmental consequences of the possible mixes of *different* mitigation strategies should be built into forecast scenarios for comparative purposes, something that has not been done to date.¹⁰⁰

Any such analysis will need to take account of the particular role likely to fall to developing countries in any global mitigation regime. As the Stern review states, “[s]preading the mitigation effort widely across sectors and countries will help to ensure that emissions are reduced where it is cheapest to do so, making policy cost-effective.”¹⁰¹ The review is quick to point out that social and other factors too must be taken into account in making decisions about where and how to make cuts. The fact that the data that might fulfil that purpose is still largely absent has not

⁹⁸ IPCC AR4, 752. The other three criteria are environmental effectiveness, cost efficiency and “political acceptability”, each of which has a better established role in mitigation choices.

⁹⁹ The term “global carbon dump” refers to the capacity to emit greenhouse gases as in effect access to a limited carbon dump, which must be allocated among uses. See Larry Lohmann, Carbon Trading, Dag Hammarskjöld Foundation (2006).

¹⁰⁰ The climate change standard narrative has traditionally followed a standard format: impacts are described mostly in developing countries; mitigation measures mostly in developed countries. While this may seem wise, as carbon emissions are concentrated in rich countries and poorer countries are rightly resisting emissions cuts, it tends to leave the most important issue—the future development under carbon constraints of poor countries—relatively undiscussed.

¹⁰¹ Stern Review, 239. See also 245-246: “some countries can cut emissions more cheaply than other countries, so ‘what’ flexibility is important”.

stopped a surge in efforts to achieve cuts in developing countries (albeit concentrated in the wealthier developing countries). Deforestation, biofuel cultivation and emissions trading will in different ways each operate to alter the environment and development paths of persons who already, in many cases, lack security of basic needs. Assessing the possible human rights impacts of strategic decisions in these areas is arguably urgent, but it requires considerably more data than is currently available.

By extension, analyses of this kind might also attend to a given mitigation strategy's likely impact upon the availability of *alternative* development paths for countries most in need of developmental benefits. Is clean technology transfer facilitated? If so, is this done in a sustainable and equitable manner, sufficient to shift development paths towards resource generation, or at least ensure no deterioration in access to resources, and to consolidate basic threshold rights levels for the more vulnerable sectors of society? Who, in short, gets what? Clearly questions such as these move outside the ordinary scope of human rights inquiry. Clearly too they inaugurate comprehensive and lengthy research agendas. And yet it is difficult to see how a human rights-sensitive lens can avoid broaching the complex relation between human rights and development along these lines, if it is to meet the challenge of climate change. The following sections look briefly at three mitigation strategies that might benefit from a more thorough human rights-sensitive research orientation: REDD, biofuels, and emissions trading.

Reduced Emissions from Deforestation and Degradation (REDD)

Among the few breakthroughs at Bali, the decision to move ahead with REDD programs for mitigating climate change counts as perhaps the most significant. Recent estimates have concluded that deforestation and land use degradation account for approximately 20% of manmade greenhouse gas emissions, a fact which places some developing countries (notably Brazil and Indonesia) among the world's top greenhouse gas emitters. Forests were not included in the Kyoto Protocol, as there was little agreement at the time on how to measure forest-related emissions or reductions. However, technological improvements have since allowed sufficient understanding of the problem to permit agreement on an international REDD regime. The broad outline of the emerging regime suggests that countries will be compensated for retaining forest cover above some "business-as-usual" baseline level.¹⁰² As avoided deforestation is seen as a very low cost way of reducing emissions (they are the "low hanging fruit" of emissions reduction), the inclusion of a functional REDD system within a transnational climate regime might sharply reduce the carbon price—an outcome which would make it significantly easier for big polluters (countries and companies alike) to meet reduction commitments. As a result, interest in REDD projects runs extremely high.

Any internationally orchestrated approach to forestry will have direct impacts on the human rights of some of the world's most vulnerable people. "The World Bank estimates that 90 percent of the 1.2 billion people living in extreme poverty around the world depend on forest resources for some part of their livelihood. In Indonesia, for example, some 6 million poor people live in state forest zones with good forest cover; in the Democratic Republic of Congo, 40 million

¹⁰² Among other sources, this section relies in particular on Frances Seymour, "Forest, Climate Change and Human Rights: A Brief Summary of the Issues", a note prepared for the ICHRP roundtable on human rights and climate change of October 2007 and on Marcus Colchester, "Forest Peoples, Customary Use and State Forests: the case for reform" draft paper to the 11th Biennial Congress of the International Association for the Study of Common Property, Bali, Indonesia, 19-23 June 2006.

people rely on forests for food, medicines, energy, and income.”¹⁰³ There is a long history of abuse of indigenous rights in connection with forest exploitation, by governments asserting claims over lands without formal title, and also by large logging companies, sometimes employing private militia. Government and big loggers have often worked together—the logging industry has long been known for the prevalence of corrupt practice. Indeed, forest conservation has already, in some cases, allegedly led to tightened restrictions on indigenous peoples (rather than on the big loggers).

The key outcome of an REDD policy regime within the context of international climate change mitigation is the tremendous increase in potential financial benefits to be accrued from control over forests. These benefits might fall to forest-dependent indigenous populations—and such an outcome might be a tolerable aim for human rights sensitive climate policy. But there is little reason to believe that the key benefits won’t rather accrue to the best prepared and resourced actors unless, as some have pointed out, human rights safeguards are built into the REDD architecture from the outset. Much research has already looked into the difficult issues surrounding indigenous rights in the context of forest usage. REDD adds a layer of urgency and complexity to these issues that human rights groups might do well to prepare for early on.

Biofuels

Biofuels offer an attractive alternative to carbon-intensive energy, although the requisite technology is still far from ready.¹⁰⁴ Recently, both the EU and US have mandated immense increases in biofuel production (that is, the cultivation of crops such as maize, sugar cane or palm oil with a view to ethanol production rather than consumption as food), to 10% of total energy sources by 2020 in the EU and to 132 billion litres by 2017 in the US (where the stated reason is energy security rather than climate change mitigation). The result is increasing incentives and subsidies for farmers to switch from food to biofuel production. At present, crop switching of this kind is happening in both poorer and richer countries. In principle, as with REDD, agricultural investment is cheaper and therefore offers greater returns in poorer than in richer countries.¹⁰⁵ Agricultural trade protections have limited the extent to which some developing countries can supply these products for northern markets—tariffs vary country to country, and are subject to numerous preferential agreements.¹⁰⁶ Nevertheless, through programs such as the

¹⁰³ Seymour, 2. World Bank, *A Revised Forest Strategy for the World Bank Group*, World Bank, Washington, D.C. (2002).

¹⁰⁴ This section is based largely on the following documents: Anne Dufey, “International trade in biofuels: Good for development? And good for environment?” IIED Briefing (2007); COM(2006) 34 final, “An EU Strategy for Biofuels” {SEC(2006) 142}, Brussels (February 8, 2006); Simon Robinson’s Big Biofuels blog (<http://www.icis.com/cgi-bin/mt/mt-search.cgi?tag=EU&IncludeBlogs=3>)

¹⁰⁵ A recent EU Commission “strategy for biofuels” puts the situation as follows:

Biomass productivity is highest in tropical environments and the production costs of biofuels, notably ethanol, are comparatively low in a number of developing countries. Bioethanol produced from sugar cane is currently competitive with fossil fuels in Brazil which is the world’s leading producer of bioethanol. Moreover, the fossil energy input for producing ethanol from sugar cane is lower than for ethanol produced in Europe, so the corresponding emission reductions are greater. For biodiesel, the EU is currently the principal producer and there is no significant trade. Developing countries such as Malaysia, Indonesia and the Philippines, that currently produce biodiesel for their domestic markets, could well develop export potential. COM(2006) 34 final, 6.

¹⁰⁶ The EU, for example, imposes no duties on biofuels from African, Caribbean and Pacific countries, or from least developed countries, and is negotiating appropriate tariffs separately through the WTO Doha round and a free trade agreement with Mercosur countries, including Brazil. The US imposes tariffs reaching to 70% on ethanol from Brazil, the world’s largest producer.

EU's Biofuels Assistance Package, incentives are being offered to developing countries, particularly the poorest, to move into biofuels production. These supplement the existing subsidies OECD countries pay their domestic biofuel producers, which reportedly amount to \$11 billion per year (\$6 billion in the US alone) and rising.¹⁰⁷

Intensive promotion of biofuel has inevitable side effects. One is crop switching. Regardless of where it happens, crop displacement from food to biofuels can negatively impact food security in more vulnerable countries, because it drives up world prices for staples such as corn. US subsidies for biofuel, for example, replace those traditionally available for corn. Indeed as corn, or maize as it is called in the US, is a source of biofuel, the key change is largely in categorisation, processing, marketing and end-use. The EU too is promoting biofuel production specifically in countries hit hardest by the suspension of a previously preferential sugar regime, which the WTO considered unacceptable. Under its biofuel policy, sugar-producing countries are encouraged to switch sugar cane processing from food to biofuel. The result is a corresponding decrease of world food supplies to match the increase of biofuel stocks, and, again, a consequent rise in food prices. According to the Food and Agricultural Organisation, this is already impacting poor countries—where the outcome is exacerbated by climate change itself:

Currently 37 countries worldwide are facing food crises... [F]ood security is being adversely affected by unprecedented price hikes for basic food, driven by historically low food stocks, droughts and floods linked to climate change, high oil prices and growing demand for bio-fuels. High international cereal prices have already sparked food riots in several countries.¹⁰⁸

Rising food prices are particularly problematic where biofuel promotion leads to crop switching in countries that already suffer from weak food security, particularly those hit directly by climate change. Swaziland, for example, is currently undergoing a severe drought affecting at least 40% of the population, which is thought to be climate change related (as in many poorer countries, there is insufficient information for a confident assertion of the causes). At the same time, 500 hectares have been turned over to a private company (USA Distilleries) for the production of jatropha, a hardy oil-producing plant, for biofuel export.¹⁰⁹ The extent to which such projects exacerbate the existing food shortage is difficult to gauge: the government blames the food shortage on global, rather than local, biofuel production, claiming that rising wheat prices have pushed bread beyond the reach of ordinary Swazis.¹¹⁰ (Swaziland has a no-tariffs agreement with the EU.) What is clear, however, is that a combination of climate change impacts and uncoordinated international mitigation policies can lead to unforeseen human rights consequences. It is equally clear that insufficient time or resources have been devoted to predicting what these impacts might be and how they might be averted.

The rush to biofuels demonstrates an impact of climate change policy on human rights that is easily overlooked. As energy-intensive nations seek to overcome their addiction to carbon fuels, they will direct their considerable economic clout to transforming global energy markets, inevitably producing many knock-on effects. Unless these have been actively and explicitly

¹⁰⁷ Global Subsidies Initiative, "Biofuels -- at what cost? Government support for ethanol and biodiesel in the European Union", IISD (2007).

¹⁰⁸ "FAO calls for urgent steps to protect the poor from soaring food prices" (December 17, 2007), online at: <http://www.fao.org/newsroom/en/news/2007/1000733/index.html>.

¹⁰⁹ See, for example, "Swaziland: Food or biofuel seems to be the question", October 15, 2007, IRIN news (<http://newsite.irinnews.org/Report.aspx?ReportId=74987>); "SD spots seeds of recovery in bio-fuel plant", July 30, 2007, Biofuel news (http://www.checkbiotech.org/green_News_Biofuels.aspx?infoId=15226); Siwa Msangi, "Biofuel revolution threatens food security for the poor", December 6, 2007, SciDev.Net (<http://www.scidev.net/Opinions/index.cfm?fuseaction=readOpinions&itemid=692&language=1>).

¹¹⁰ "Swaziland: Too much bread to buy a loaf", December 7, 2007, IRIN news (<http://newsite.irinnews.org/Report.aspx?ReportId=75757>).

considered and researched in advance, they may be unpredictable and even catastrophic. And yet, while the EU's "biofuel strategy" and "biofuel action plan" speak of monitoring the sustainability of biofuel promotion, it is only with an eye to its "environmental impacts". No mention is made of the possible impacts on food security or human rights. Though it is certainly complex to tie energy security and trade policy to fundamental basic needs provision, there seems to be scope at a minimum for a research agenda that would begin to look forward to the likely longer term impacts of biofuel switching on basic human rights.

Food security is not the only human rights risk attached to biofuel production. In Indonesia, a major project to produce palm oil (both as a cooking oil for the local market and a biofuel for the European market), has involved significant forest destruction and led also to the violation of customary land rights of the indigenous population, prompting a rebuke from the UN's Committee on the Elimination of Racial Discrimination.¹¹¹

Concerns have been raised that new plantations created for producing biofuels upset land tenure regimes or negatively affect prior users of the land. In some instances, increasing concentration of land resources may result. Other concerns address agricultural labor and the right to food. One estimate widely credited indicated that 30 percent of the rise in food prices in 2000-08 resulted from diversion of land to biofuel. (International Food Policy Research Institute, *The World Food Situation: New Driving Forces and Required Actions* (2007).)

If biomass production is used as a way to decrease the emission of GHG, there may be a conflict with the right to food. In 2007 the UN SR on the Right to Food, Jean Ziegler, called for a 5 year moratorium on biofuel production. Report of the SR on the Right to Food, A/62/289, UN GA 22, Aug. 2007. A report for the FAO also has expressed scepticism about the legitimacy of biofuel production because of its effect on the right to food. A. Eide, *The Right to Food and the Impact of Liquid Biofuels*, FAO 2008. The problem is that the costs to food production substantially outweigh the emissions reduction benefits. At the least some biomass subsidies may violate human rights.

Consider, too, indigenous and local community rights. The right to participate in decision-making including prior informed consent is a recognized right guaranteed individuals, but especially indigenous communities.¹¹² Several examples of practices in this respect can already be cited in respect to market incentives for carbon sinks that promote large-scale forest plantations and a consequent loss of traditional ecosystems and sacred sites. A 2000 Declaration of Indigenous Peoples on Climate Change adopted by indigenous groups at the Hague sets out these groups' position on the UNFCCC and the Kyoto Protocol. It was reiterated and expanded

¹¹¹ CERD/C/IDN/CO/3 (August 15, 2007), Concluding observations of the Committee on the Elimination of Racial Discrimination, Indonesia, para. 17. For background see "Request for Consideration of the Situation of Indigenous Peoples in Kalimantan, Indonesia, under the United Nations Committee on the Elimination of Racial Discrimination's Urgent Action and Early Warning Procedures", submitted by 13 NGOs on the occasion of CERD's 71st session (July 6, 2007), especially Appendix B, *Oil Palm and Other Commercial Tree Plantations, Monocropping: Impacts on Indigenous Peoples' Land Tenure and Resource Management Systems and Livelihoods*, UN Permanent Forum on Indigenous Issues Working Paper, E/C.19/2007/CRP.6

¹¹² The UN Declaration on the Rights of Indigenous Peoples, UN GAOR, 61st Sess, UN Doc A/Res/61/295 (2007) recognizes that respect for indigenous knowledge, cultures and traditional practices contributes to sustainable and equitable development and proper management of the environment. It also guarantees participation in decision-making. Art. 18.

at subsequent meetings of the parties and through the work of the UN Permanent Forum on Indigenous Issues. In 2008, the UNPFII identified a key barrier in indigenous adaptation capacities: lack of recognition and protection of their human rights. Some projects are being undertaken that promote mitigation and respect for indigenous rights. In Australia the West Arnhem Land Fire Abatement Project is a carbon offset project in the Northern Territory.¹¹³ It is based on a Fire Management Agreement that looks to fire management to offset greenhouse gas emissions from a Liquefied Natural Gas plant in Darwin Harbour. It is based on adapting traditional fire management practices in a wildfire-prone area,¹¹⁴ not only reducing greenhouse gas emissions, but also helping to conserve environmental and cultural values in the Kakadu National Park, a World Heritage Site. Local Aborigines are employed as land management rangers and traditional knowledge provides the basis for the fire management plan. The LNG plant at Darwin agreed to offset greenhouse gas emissions as part of its licensing agreement with the Northern Territory Government.¹¹⁵ This and other projects are vulnerable in the absence of land and water rights for the local communities. Strengthening their rights increases their participation and development.

Indigenous peoples are rights-holders and this needs to be respected. In particular, any legislative scheme that recognizes carbon rights in trees and natural resources products needs to consider the impacts on interests in land and indigenous rights in particular. Indigenous possess many assets including their knowledge that may be recognized and enhanced through partnerships. There are many mechanisms that could protect and advance indigenous interests in new environmental markets that contribute to climate change mitigation. It is important that this happens and not that new laws and regulations restrict their rights in relation to access and use of their traditional lands and resources. As landholders and inhabitants, they contribute to mitigation efforts in significant ways that need to be recognized. The New Zealand government has carried out a study of the likely positive and negative impacts of an emissions trading scheme on the rights and interests of the Maori.¹¹⁶ This helps provide the prior information necessary to the consultation process.

Environmental damage to indigenous cultural heritage and identity is another problem of climate change. Sacred sites are being devastated as well as traditional hunting and gathering spaces. The eroding landscape is removing traditional lands. Rising sea levels is affecting coastal groups like the Torres Strait communities. Human health and habitable areas and the viability of local enterprises through activities such as fishing, hunting and harvesting other foods and medicines are being threatened. Legal actions are following. In addition to the Inuit claim, Alaskan natives in the village of Kivalina have brought action against several oil, coal and

¹¹³ See Emily Gerrard, *Climate Change and Human Rights: Issues and Opportunities for Indigenous Peoples*, 31 U.N.S.W.L.J. 941, 944 (2008).

¹¹⁴ Gerrard describes one of the traditional practices and its benefits: "...Martu women undertake burning activities which assist hunting by revealing tracks and dens of small burrowing animals. The mosaic of burnt areas resulting from the women's use of fire has the collateral benefit of mitigating wild fires in the summer months and sustaining the biodiversity of this area of the Western Desert. The preservation of certain trees and shrubs increases the capacity of the ecosystem to maintain carbon sequestration." Id. at 945 (citing David Campbell, Jocelyn Davies and John Wakerman, 'Realising Economies in the Joint Supply of Health and Environmental Services in Aboriginal Central Australia,' Working Paper NO. 11, Desert Knowledge CRC 2007).

¹¹⁵ See Tropical Savannas CRC, *The West Arnhem Land Fire Abatement Project* (2008), http://savanna.ntu.edu.au/information/arnhem_fire_project.html.

¹¹⁶ New Zealand Ministry for the Environment, *Maori Impacts from the Emissions Trading Scheme: Detailed Analysis and Conclusions* (2008), <Http://222.mfe.govt.nz/publications/climate/maori-impacts-analysis-conclusions-jan08/index.html>.

power companies for their contributions to climate change and the resulting impact on their homes and land, which is disappearing into the Chbukchi Sea.¹¹⁷

Emissions Trading and the CDM

A third possible area for research is the nascent international emissions market, which appears likely to be a lynchpin of any future global mitigation regime.¹¹⁸ As this is potentially both the most far-reaching mechanism, the most speculative in its potential outcomes, and the least independent in terms of its broader effects, it does not lend itself easily to assessment in terms of rights impacts. But it is possible for now to flag some broad big-picture concerns, given that a successful mitigation regime will have inevitable and profound development consequences, which will translate in turn into human rights impacts. Recourse to emissions trading might raise flags in three broad areas: allocation, accessibility, and alienation. Before looking at these, the following paragraphs briefly describe the trading system.

Under an emissions trading regime, mandatory national emissions reductions are converted into tradable commodities. The principle is to achieve cuts as cheaply as possible by allowing those best placed to make cuts the freedom to do so, and permitting others, for whom cuts are too expensive, to buy them instead. Those companies that can make cuts most cheaply can sell their excess reductions (which amount to rights to emit) to those for whom it is cheaper to buy reductions (emission rights) than to achieve them. Again, the difference in costs of reductions provides an important incentive to include developing countries within the trading regime.

According to the Stern Review:

The ability to trade obligations across borders would improve efficiency by ensuring that deployment takes place where it is cheapest to do so. The benefits from this may be significant where there are major differences between countries in, for instance, the availability of a natural resource such as sunshine, or in lower labour or other costs.¹¹⁹

These benefits are already built into the mitigation regime: Annex I countries are not constrained to make cuts solely at home. Through the Clean Development Mechanism (CDM), companies that can make cuts cheaply by reducing emissions in developing countries (relative to what would “otherwise” have taken place) can trade those reductions (known as CERs or Certified Emission Reductions) too on the emissions market. By substituting cleaner technologies for dirtier ones, the CDM also aims to facilitate lower carbon development paths in poorer countries. At present, a limited number of CDM CERs can be traded on the main existing market, the EU’s Emissions Trading System (ETS) (others too are being tried and tested).

The trading system has other objectives. It is intended to spur technological innovation, particularly from those for whom achieving future targets will be particularly expensive: R&D ought eventually to become a better investment for the longer term than repeatedly buying and using rights to emit. Trading also provides a means to set a price on carbon, generally acknowledged as the critical means of turning the “externality” of greenhouse gas emissions into a tangible cost for those who emit, reflecting the “social cost” of the emission. (Trading is not the only way of achieving a carbon price—taxes or simple fines would work as well.) Since, in the interests of efficiency, the optimal carbon price should be global—i.e., carbon emissions ought to

¹¹⁷ See *Native Village of Kivalina and City of Kivalina v. ExxonMobil Corp et al.* filed in the US Dist. Ct, N.D.CA filed Feb. 2008.

¹¹⁸ See IPCC AR 4, Chpt 13.

¹¹⁹ Stern Review, Part VI, Chapter 24, 529.

cost the same everywhere¹²⁰—trading too ought ideally to function globally.¹²¹ The Clean Development Mechanism is a step towards creating such a global system. Backing up the emissions trading regime is the hard mathematics of long-term stabilisation. As noted above, if global warming is not to exceed two degrees Celsius above preindustrial levels, *total* global emissions need to have fallen by 50% from 1990 levels by 2050, which on most accounts means that the heavily polluting OECD countries will need to have reduced emissions by 80-90% by then. Even in the event that this ambitious target is achieved, developing countries as a whole will still need to have cut their own emissions by 30-60% by 2050 (having peaked in 2025 or so).¹²² In a couple of decades, in other words, *no* country will be in a position to *increase* greenhouse gas emissions, not even those that today lack the resources necessary for basic public goods, such as food security, clean drinking water and access to basic health services. The dilemma is well captured in a report by EcoEquity published by the Heinrich Böll Foundation:¹²³

[I]f we are to [achieve a] plausibly precautionary global pathway, the South's emissions must leave their projected path almost immediately, and be dropping precipitously by 2025. And even [under] optimistic assumptions about both equity and economic growth, many people in the South would still be struggling against poverty when its emissions had to begin this steep decline. Moreover, the less stringent pathways – despite their substantially higher risks of catastrophic climate change – provide only another few extra years of emissions growth.

As the same report points out, such a situation is desperate but not quite hopeless. But treating it requires that the policy options that achieve mitigation be closely thought through and monitored. For by 2050 or so even the poorest countries will have transited to low-carbon economies. Fulfilment of their developmental needs will depend significantly on the intermediate steps taken by then to ensure that limited carbon use has been maximised or that non-carbon technologies are available inexpensively. It is against this background that questions might be asked about the adequacy of trading as a primary means of achieving that outcome.

Allocation: An emissions cap is the basis for a set allocation of emissions rights. At present only Annex I country parties to the Kyoto protocol have emissions caps. These have been passed onto national private actors in the form of rights to emit, which can then be traded between them.¹²⁴ Since developing countries do not have caps, they do not (indeed, they *cannot*) have emissions rights either, at present, which means, for example, that reductions generated through the CDM can *only* be passed to the Annex I-based company partner (for whom it is a revenue source additional to any initial project investment). Furthermore, as CDM emission reductions are additional to the caps taken by Annex I countries, they represent a net increase in global

¹²⁰ Stern Review, Executive Summary, xviii (“Economic efficiency points to the advantages of a common global carbon price: emissions reductions will then take place wherever they are cheapest”).

¹²¹ In principle, a carbon tax too could achieve a global price if there was international harmonisation. For discussion see Stern Review, Part VI, 470. See also Joseph Stiglitz, “A New Agenda for Global Warming,” *The Economists' Voice*: Vol. 3 : Iss. 7, Article 3 (2006).

¹²² See Paul Baer, Tom Athanasiou and Sivan Kartha, *The Right to Development in a Climate Constrained World*, Heinrich Böll Foundation (2007), 23-24.

¹²³ *Ibid.*

¹²⁴ The principal technique for allocation has so far been “grandfathering”—that is assigning rights to emit to companies according to the amount they already emit. The companies in question are frequently multinational, such that the national cap they inherit does not represent an absolute limit to their global emissions capacity. Companies may trade internally, and may negotiate CDM deals directly. So although the most advanced market, is limited to the EU, transnational actors have considerable freedom as to where and how they make and sell emissions cuts. And as other trading regimes grow up (in specific US states or elsewhere), the rights become increasingly fungible, particularly for ubiquitous actors with a foot in the main markets.

emissions that cannot be properly factored into the global account.¹²⁵ It is likely that, to be functional and reliable, the emissions trading regime will eventually require the longterm accession of all relevant actors to a system of caps. However, the later that happens, the fewer allocation rights are likely to be available and the more costly it will be to buy them.

Access: For middle-income developing countries (Brazil, China, India and other countries of the far East), this scenario might not pose a significant problem: they may be able to hold off taking on caps (and so joining the emissions market) until they have reached levels of development that will allow transition to lower carbon economies. For the very poorest countries (LDCs), however, things are more pressing. By mid century, available emission rights will be significantly reduced; they will likely be in high demand and scarce; and wealthy countries will be pushing hard for concessions. True, a high price will nominally suit countries that cannot, in any case, use up all their allocation.¹²⁶ But, any benefits from sales would depend on solid governance, redistribution and investment mechanisms in the countries in question, of a kind often assumed to be lacking today. Otherwise, “underdeveloped” countries will be essentially banking on affordable technological fixes that do not yet exist. They will be reliant not only on significant investment in R&D in the rich world, but also on proactive technology transfer and the suspension of intellectual barriers to access. None of these three critical areas of intervention—and particularly not the latter two—are receiving policy attention comparable to that devoted to emissions trading.

Alienation: All of this raises questions about the ethics of permanently alienable emission rights—in particular where they might be sold on by actors that have not historically benefitted from the carbon dump. The ethical questions are addressed directly in section V. Here it is enough to point out that there is no inherent need for *full* alienation of these rights under most carbon stabilisation scenarios. But just at what point the limit should be set—particularly for countries that have yet to achieve basic rights fulfilment—might be better judged on the basis of empirical research into the likely predictable unfolding of an emissions market under different allocation and alienation scenarios.

The foregoing is speculative: it is intended merely to frame the issues raised by emissions trading that might justify a more rigorous inquiry into its social and developmental consequences. In theory, of course, a portion of any country’s emission rights might be considered inalienable, or emissions rights might be reallocated to the least developed actor. The point of a market solution, however, is to presume against (if not actually preclude), these possibilities. In the long run, it establishes a price; but a price, of course, discriminates against those who can’t afford it. That is likely to mean, ironically, the very countries already most vulnerable to climate change impacts. A core question raised by the emissions market is whether it will put carbon-based development out of reach for certain countries without making any alternative readily available. From this perspective, the human rights impacts of emissions trading can only properly be assessed in the context of predictive scenarios involving other elements of the climate regime—technical advance, R&D, technology transfer, relaxing of barriers to technological access such as intellectual property, and so on—which are not themselves dependent upon or attached to the

¹²⁵ Arguably, since in the long run, emissions from CDM projects must be set against global targets, Certified Emissions Reductions (CERs) derived from CDM projects amount to a free give away by developing countries.

¹²⁶ In principle, emissions allocations will be renewable, in that targets will be fixed within a period, following which new caps are set and new allocations made. However, with each step caps are tighter than before—for the poorer, selling will likely appear highly profitable even if the gains are short term. Banking will be difficult and purchasing impossible.

trading regime, and which indeed are ordinarily viewed in isolation from it. This makes emissions trading slippery to assess for its human rights dimensions—but not impossible.

I. Procedural rights: voice and process in international adaptation policy

Climate change adaptation refers to actions taken to adjust lives and livelihoods to the new conditions brought about by warming temperatures and associated climate changes. Adaptation is commonly used in three distinct ways in the climate change literature. First, as something that occurs autonomously as a result of changing environments—confronted with warmer weather or more storms, people may choose to use new materials in their houses, or to switch crops or livelihoods. Second, adaptation also refers to government measures tending in a similar direction, such as building sea-walls to protect against rising tides (as the Netherlands, for example, reportedly plans). Third, adaptation has a particular meaning derived from the UNFCCC and subsequent negotiations. As the imbalance in climate change between perpetrators and victims was recognised from the outset, the UNFCCC included a requirement for developed countries to provide “new and additional funding” to developing countries for the purposes of addressing climate change.¹²⁷ The “additionality” of this funding to official development assistance (ODA) remains somewhat illusory, however, both because ODA has not yet reached promised levels of 0.7% of GDP for most countries, and because adaptation funding itself has not materialised. Adaptation is used here in this third sense—to refer to the ongoing elaboration of an international policy to deliver adaptation funding to the countries that most need it. Although delivery has been slow, a number of adaptation funds exist.¹²⁸ These are all managed by the Global Environmental Facility (GEF) a World Bank body that channels multilateral funding for projects related to the main environmental treaties. The sources include: GEF’s main trust fund, available to countries on application following a complex (too complex in the view of many) system for assessing recipient country capacity to absorb finance; the Least Developed Country Fund (LDCF), which has so far been used to fund the preparation of “national action programs for adaptation” in a handful of countries, but little else; the Special Climate Change Fund (SCCF), a general adaptation account which has not yet come into operation due in large part to disagreements over whether oil producing countries should be compensated for future lost revenues; and an Adaptation Fund created through the Kyoto Protocol, to be replenished from a 2% levy on CDM projects and which came under GEF management only in December 2007. There are many reasons for the various delays in the delivery of adaptation funding—but only two will be explored further below, as they concern areas of considerable human rights experience—public participation and access to information.

The following sections briefly describe areas in which human rights concerns and tools can conceivably be factored into international adaptation policy, relying in particular on the 1998 Aarhus Convention, a Europe-wide treaty that builds upon and expands the participatory rights first acknowledged in the UDHR and ICCPR to public participation and to information.

Public participation

¹²⁷ UNFCCC Art. 4 (3). This paragraph and much of the section relies on MJ Mace, “Funding for Adaptation to Climate Change: UNFCCC and GEF Developments since COP-7”, 14 *RECIEL* 225 (2005) upon Benito Müller, “Climate of Distrust: The 2006 Bonn Climate Change Adaptation Fund Negotiations”, Oxford Institute for Energy Studies (2006), and Benito Müller, “The Nairobi Climate Change Conference: A Breakthrough for Adaptation Funding”, OIES Working Paper (2007).

¹²⁸ See for a good recent overview, Stern Review, Part VI, 557.

International negotiations on adaptation have long suffered from complication regarding process and participation, rooted in familiar systemic inequalities. Resource poor countries in need of adaptation funding often can afford only a few delegates at climate negotiations, where wealthy countries can field hundreds. As a result, those present face inevitable difficulties commanding the complexity and the inter-dependence of the myriad, highly technical negotiations underway at a given time. Whether negotiations on different related subjects take place concurrently, as often happens, or involve meticulous acquaintance with jargon-filled textual detail, there is little chance that the most interested parties will be in a position to follow, much less influence, outcomes effectively. According to those familiar with negotiations, the situation has fuelled distrust between the parties. In order to retain some control over the policy process affecting their countries, LDC representatives sought and were granted the right to elaborate National Adaptation Programmes of Action (NAPAs)—but these in turn have become a source of further resource-related delays and recrimination.

Article 7 of the Aarhus convention on public participation, says:

Each Party shall make appropriate practical and/or other provisions for the public to participate during the preparation of plans and programmes relating to the environment, within a transparent and fair framework, having provided the necessary information to the public.

The value of this kind of exhortation in the area of climate change is immediately obvious. However, Aarhus envisages participatory obligations only between state and citizen—it says little about the kinds of international obligation assumed in the UNFCCC and raised by the Stern Review. Yet within the terms of the UNFCCC, inter-state obligations of this kind might also be imaginably within the scope of “equity”, a term which as yet remains relatively undefined. This need not be an extravagant demand: it can remain a fairly modest requirement for the effective participation of each relevant interested party, supplied with full information, in a timely and digestible form, at each discussion that concerns them. Ideally of course, one would need both interstate and within-state obligations: a two-way channel from those whose livelihoods are most at stake, through their representatives into the negotiations and funding mechanisms, and back again.

Rights to participation may be equally important when it comes to the implementation of adaptation policies on the ground, where resources constraints are exacerbated by political challenges. Consent between states and citizens is especially important if policies involve sacrifice, or large scale government interference in the day-to-day dealings of ordinary people. Human rights provide an internationally-recognised and formally constructed framework, and to some extent a body of practice for approaching issues of public participation and consent.

Access to information

It is widely recognised that the delivery of adaptation funding will be most effective only once it is known where it should be directed for maximum benefit. However it is just this information that is generally lacking for international adaptation policies. Again the reason is resource related. As outlined above, the concentration of expertise and financing in wealthy countries has meant that information concerning the likely impacts of climate change and the response options is far more thorough there than in sub-Saharan Africa, for example, where expertise and finance are lacking. The IPCC reports are full of practical examples of adaptation in rich countries, many of which are already underway, while forecasts for poorer countries remain vague and sweeping. The Stern Review makes the point as follows:

Adaptation will depend on comprehensive climate monitoring networks, and reliable scientific information and forecasts on climate change - a key global public good. [D]eveloping-country

governments should provide information to their own citizens but currently lack the capacity to do this, demonstrated by the shortage of weather watch stations. The international community should therefore support global, regional and national research and information systems on risk, including helping developing-country governments build adequate monitoring and dissemination programs at the national level. Priorities include measuring and forecasting climatic variability, regional and national floods, and geophysical hazards.¹²⁹

The list of priority areas identified in the Stern Review demonstrates the scale of the challenge. The physical science data must necessarily precede—and provide a base for—information on the social and rights impacts. At the same time, human rights thresholds might help orient where adaptation research should focus. In the construction of NAPAs, for example, a human rights lens might help prioritise where resources should be focused first. As outlined above, human rights thresholds can indicate rough measures to assess the most urgent loci for policy attention. So while it is critical to know at what temperature increase might we expect droughts or severe sea-level rise, the next important step for funding policy is to know who will it hit, how hard, and how will the affected persons react? How can they be helped? A human rights-sensitive threshold might act as a trigger to determine where adaptation funding should be directed, even or especially in advance of actual impacts taking place.

These considerations fit naturally with the agenda outlined in the Bali Action Plan of December 2007, which calls for:

Enhanced action on adaptation, including ... International cooperation to support urgent implementation of adaptation actions, including through vulnerability assessments, prioritization of actions, financial needs assessments, capacity-building and response strategies, integration of adaptation actions into sectoral and national planning, specific projects and programmes, means to incentivize the implementation of adaptation actions, and other ways to enable climate-resilient development and reduce vulnerability of all Parties, taking into account the urgent and immediate needs of developing countries that are particularly vulnerable to the adverse effects of climate change, especially the least developed countries and small island developing States, and ... countries in Africa affected by drought, desertification and floods.¹³⁰

As argued above, in elaborating research agendas to meet demands of this kind, human rights can play an invaluable role in directing focus, ordering priorities, and galvanising support. There is already, therefore, a good basis in the emerging climate change regime for the integration of human rights-focused research into adaptation policy. That said, the human *right* to information might not appear—at first glance—of much help faced with these challenges. As generally conceived, it amounts to the public's right to receive *on request* information *already held* by public authorities. This would not be adequate to the adaptation needs in countries where the information does not necessarily exist to begin. The Aarhus Convention goes further, however, requiring that states compile reports on environmental risks periodically, update them systematically, and make them available to the public proactively (Aarhus Convention, Art. 5). This offers useful pointers, but is clearly not in itself adequate to the information dilemmas facing developing countries in the context of climate change. An Aarhus equivalent for African states, for example, would not in itself overcome the resource and capacity gaps that can stymie good information gathering in many countries. Nor would it necessarily strengthen the hand of developing country delegates at forums such as the COPs. But what if the Aarhus principles were matched to the adaptation obligations of the UNFCCC and the Bali roadmap? How would this

¹²⁹ Stern Review, Part VI, 563.

¹³⁰ Decision -/CP.13, Bali Action Plan (Advance Unedited Version), Article 1(c)(i).

affect the division of labour in information-gathering and dissemination between national and international actors?

II. Ethics and rights: conceptual concerns

[A final section will sketch an inquiry into some theoretical questions raised at the nexus of climate change and human rights. These will review, first, the very dissimilar legal worlds of the MEAs and the international human rights machinery—both the difference in orientation between the soft governance of the climate change regime and more formalist human rights law, and also the tension between the UNFCCC’s three-tiers as against the formal equality of states under human rights law. The limited capacity of flexible notions such as *equity* to bridge these gaps will be a focus. A second section will examine the “right to development” that has been resurgent in rights-based approaches to climate change due to its place in the UNFCCC preamble. The right to development has a difficult history in human rights doctrine, which may pose problems for new theoretical positions constructed upon it. Finally, the effective generation of new “rights to emit” under the Kyoto Protocol demonstrates the comparative facility of establishing new property rights under international law as compared with new human rights. Whereas rights pertaining to the atmosphere might be thought fundamental, universal and inalienable, their first legal incarnation has instead taken the form of exclusive commodities. Yet emission rights are arguably the flipside of a human right to use the atmosphere—which itself is an idea that has continuously reemerged in the climate change literature (in principles such as contraction and convergence). This recent history provides an interesting window onto the shaping forces of contemporary international law.]

*Equity, intergenerational equity, and “common but differentiated” responsibilities
Rights to development and to a clean environment
“Rights to emit” in the climate change regime*

Human Rights and Adaptation Measures

All persons have the right to life and states have an obligation to ensure that no one is arbitrarily deprived of life and that the right is protected by law. ICCPR, art. 6(1). Climate change is projected to cause unnecessary deaths due to severe weather events, heat (August 2003, 14,800 people in France and 35,000 in Europe as a whole died from a heatwave – at a temperature predicted to be the mean in 30 years time. New types of housing and offices are necessary for adaptation. New drainage systems and protections against flooding are needed.

The right to health is affirmed, inter alia, by art. 12 of the ICESCR. General Comment No. 14 affirms that this right is not confined to health care, but also “extends to the underlying determinants of health, such as food and nutrition, housing, access to safe and potable water and adequate sanitation, safe and healthy working conditions and a healthy environment.” These rights are also severely threatened by climate change, which will result in greater exposure to both vector-borne diseases such as dengue fever and malaria, but also an increase in cardio-respiratory problems and water-borne diseases. Technology can help through monitoring and detection facilities, and greater immunization programs. Better waste disposal systems and water treatment plants.

Conclusions

As climate change impacts are felt increasingly concretely, there will be more frequent recourse to human rights litigation. Litigation is an important response to policy failures. However when it comes to the larger climate change challenge, it will likely bring too little relief too late; its utility will lie rather in pointing the way towards, and mobilising support for, the adoption of better policies to prevent or minimise climate change-related violations. Second, human rights will be relevant in formulating the broad research agendas needed to inform overarching climate change policy options, particularly as regards mitigation strategies. In addition, third, the incorporation of procedural human rights norms might helpfully inform the *processes* of policy construction, notably with regard to adaptation. Finally, there is a role for broader scholarship examining the human rights dimensions of the many ethical concerns that have consistently surfaced—and will continue to resurface—in the context of climate change.

as a matter of simple fact—climate change touches upon a broad range of human rights concerns: rights to food, water, health, shelter and property, as well as participatory rights, rights to livelihood and even life, and rights associated with culture, migration and conflict. Few dispute that this is the case.

Furthermore, the construction of an international climate change regime has rights implications of its own. Mitigation policies have clear human rights dimensions. On one hand, any strategy (or mix of strategies) that is successful at global level will tend to determine the long term access many millions of people will have to basic public goods. On the other, choices made in the shorter term—such as whether and where to cultivate biofuels or preserve forests—will affect food, water and health security and by extension the cultures and livelihoods of particular persons in particular places. Adaptation policy too is relevant. Adaptation can, for example, be reframed as a corrective response to a potential or actual climate change-related human rights violation. Adaptive interventions before or during climate change impacts reduce the likelihood that a rights violation might result from that impact. Adaptation actions after the fact may provide redress where violations have already taken place. Indeed, discussions of adaptation coordination at international level—as opposed to autonomous local adaptation measures—already assume a rights basis for policy construction, even if it is rarely articulated as such. Drawing a line in this manner between expected climate change impacts, or the effects of climate change policy, and human rights consequences is relatively uncontroversial.

A second starting point is the observation that, despite the obvious overlaps outlined above, the mainstream climate change literature today does not recognise human rights concerns as centrally (or, for that matter, even peripherally) relevant. This is so even though the reports of the Intergovernmental Panel on Climate Change (IPCC) have consistently examined the social impacts of climate change—in particular on food, water and health—and have progressively expanded their sphere of reference from the physical sciences into the social sciences. Yet to date, and perhaps necessarily, the analyses remain aggregated at a continental, or at best subregional level; they reach only with great difficulty to the individuals who experience climate impacts directly as rights infringements. This is in part because the available information on probable climate change impacts remains as yet insufficiently nuanced to allow impact assessments at this micro-level. In fact—and this reflects the resource asymmetries that everywhere inform the climate change phenomenon—information is far more detailed for those

areas likely to experience lesser impacts than for those where the consequences will be devastating.

The paucity of rights-specific information is not, of course, merely a *cause* of the low level of human rights discourse in the climate change field, it is also a *consequence*. Given the human rights salience of the major themes discussed in the IPCC's fourth assessment report (AR4), for example, it is remarkable that this relevance is scarcely signalled in almost 3,000 pages of analysis.¹³¹ This would appear to indicate a near complete disciplinary disconnect, an impression borne out by a glance at the 12,000-strong participants' list for the recent (thirteenth) Conference of the Parties of December 2007, no more than a tiny handful of whom hail from human rights backgrounds. Scanning for human rights "language" is, of course, a poor analytical tool. It may well be that similar concerns are addressed using different terms—indeed such a conclusion appears generally correct in the case of climate change and human rights. But the choice of language and disciplinary lens will nevertheless determine to some extent the relevance of certain kinds of information, orientation, and response. Since the IPCC reports are essentially literature reviews, the paucity of rights references indicate a mere vacuum in the literature rather than any conclusion, bias or failing on the part of the IPCC authors. Such a vacuum speaks as much to an absence of interest in climate change on the part of human rights professionals to date as vice versa.

The ethical language of "equity" and "common but differentiated responsibilities" of the UNFCCC has a quite different texture to the moral certainty and universalism of statements like the UDHR and the international human rights covenants. Indeed "equity", as it appears in the UNFCCC, might be thought difficult to reconcile with the formal equality that buttresses human rights law, much as the UNFCCC's distinction between "Annex I" and "non-Annex I" countries runs seemingly counter to the universal obligations held by all countries under human rights law.¹³²

Despite the obstacles listed here, there is little doubt that human rights law will be critical in addressing climate change related harms.¹³³ But human rights concerns can be articulated in many registers other than law. In approaching climate change, a case might be made for a less *legalist* application of human rights principles to the climate change field. Four potential benefits of such a policy orientation follow:

1. Human rights provide thresholds to define acceptable climate outcomes. As mentioned, human rights discourse cannot easily sustain discussion about hypotheticals without reverting quickly to actual facts and outcomes. But this can be an advantage. In a debate necessarily steeped in scenarios and probabilities, a human rights angle requires that hard lines be drawn where possible. The important questions about impact scenarios would then be: *who*, precisely, is

¹³¹ Human rights are mentioned on a handful of occasions in the fourth assessment report (hereafter IPCC AR4, with each of the three volumes named after relevant working group (WG)). The discussion of legal instruments for mitigation in chapter 13 (AR4, WG III, 793-4) notes the existence of human rights litigation, but without commentary. Passing references also appear, again without analysis, in AR4 WGII, chapters 15 (661), 17 (736) and 20 (818). Finally, an intriguing remark in AR4 WG III chapter 12 on "mitigation and sustainable development" (696) is further discussed below p. XXX.

¹³² See section V below.

¹³³ See section II below.

likely to suffer *what* and *why*? Human rights standards provide **thresholds** of minimum acceptability. If an effect of climate change is to cause the living conditions of actual individuals to sink *below* these thresholds, they might be considered unacceptable (or even unlawful).¹³⁴ This is a more modest perspective than one that speaks of equal access to the global carbon dump or to a certain level of prosperity. Looking forward, mitigation policies too might be evaluated by reference to human rights thresholds. Deforestation, biofuel, even emissions trading will all lead to outcomes that, like climate impacts themselves, can be reviewed in advance for their likely human rights effects. If specific policies are forecast to lead to faltering rights fulfilment, this might give grounds to reject or temper them.¹³⁵

2. The translation of ethical demands into legal obligations. Human rights thinking habitually aims to resituate ethical responses within a legal framework. Observers of the climate change negotiations have long noted that the distribution of climate change impacts is inherently unfair: the costs are carried less by those who created the problem than by “innocent” others elsewhere. One long-standing ethical worry has been that this original injustice will be reproduced in an international climate regime—allowing the beneficiaries of carbon overuse to pass their costs onto others distant in time or space. This hard ethical problem has always been close to the heart of climate change negotiations. It is extremely unlikely that human rights law can resolve it—but perhaps human rights *values* can at least usefully refocus and ground the debate.

3. Accountability. The human rights preoccupation with accountability might be helpful in constructing a climate regime. It is already clear that any successor to the Kyoto Protocol is highly unlikely to include direct accountability of the worst polluters to the most affected. But accountability mechanisms of some sort are nevertheless likely to underpin any functional climate regime, as compliance will necessarily be vital to credibility.¹³⁶ The incorporation of human rights impacts assessments in policy projections and outcomes could help determine where and how accountability should be attributed, and towards whom.

Various doctrines of procedural or process rights have evolved within human rights law. In principle these can help to channel the voice and perspectives of those most affected into the heart of the regimes under construction. This point, which is of particular importance to adaptation policy, will be discussed further below, in section IV.

The above suggests that, looking forward to future climate change negotiations, human rights may play a valuable policy role, particularly in ethically fraught areas. Human rights supply a set of internationally agreed values around which common action can be negotiated and motivated. They provide a language of minimum thresholds, about which there is already widespread consensus. They are potentially very relevant where the recent Bali roadmap, for example, speaks of “A shared vision for long-term cooperative action... in accordance with the provisions and principles of the Convention... taking into account social and economic conditions and other relevant factors”.¹³⁷ The rule-of-law formalism of human rights practice might provide backbone for the ethical aspirations and policy assumptions embedded in such language.

¹³⁴ The notion of human rights as thresholds is here borrowed from the work of Simon Caney.

¹³⁵ See section III below.

¹³⁶ See the discussion in the Stern Review, Part VI, especially chapters 21 and 27.

¹³⁷ See also the Stern review, 572-3.

The case is innovative in several respects. It not only confronts an international tribunal with the serious human rights consequences of global warming, but joins up the dots between the “acts and omissions” of the US government (and other emitters) and the suffering of particular peoples located in climate-sensitive territories at a distance. The argument that rights to culture and health (among others) were effectively violated by the actions of polluters—and by extension the government that failed to stop them—plausibly applied existing human rights case law on civil and political rights to bear on an area where social and economic rights violations entail a *negative* obligation on governments and polluters (to desist from harmful actions).¹³⁸ The case further sought to hold one state responsible for activities undertaken in several different states—applying both criminal law principles of joint liability and, more innovatively, the UNFCCC’s own principle of “common but differentiated responsibilities”. The plaintiffs claimed that the US as a major polluter and Annex I country arguably bears a special responsibility towards those affected.

In the event, the Commission did not deem the Inuit case admissible. Reasons were not given for the refusal. However, the Commission did invite the petitioners to request a public hearing on the matter—which subsequently took place on March 1, 2007. On that occasion, the Commissioners asked in particular how a given state could be held liable for actions that took place in numerous states. Counsel for the petitioners memorably pointed out that posing the question of responsibility in these terms was “like saying if two people stab a knife into someone together, we have to figure out how much each one is responsible. Well no, each one *is* responsible for causing the harm and must take action” to prevent it.¹³⁹ As of early 2008, the Commission had not issued a report based on the hearing. One reason for their reticence may be that the issues raised might be thought difficult to address without some assessment of the underlying science of climate change, which such a tribunal might wish to avoid.¹⁴⁰

The Inuit case’s many potential innovations also constitute possible pitfalls, and highlight, conversely, the relative weaknesses of international human rights law confronted with wrongs of this kind. Certainly there is scope for evolution of the law: it is conceivable—and even likely—that the unprecedented nature and reach of climate change will ultimately lead the relevant human rights case law into new and unfamiliar territory. And if that is so, it will be largely due to pioneering cases such as this one—as well as to the generally shifting view of the reality of climate change and its potential to injure. Nevertheless, some core obstacles are likely to impede quick success. These include those outlined in section I above and extend to a general difficulty with assessing causation and assigning liability in cases involving climate change-related harms. As these issues can be tricky, they are discussed in greater detail in the following four paragraphs.

¹³⁸ See footnote 4 above for the relevant case law. On climate change as a phenomenon placing a negative obligation on governments with regard to social and economic rights, see Wolfgang Sachs, “Climate Change and Human Rights”, ...

¹³⁹ Statement of Martin Wagner at the IACHR public hearing. The hearing can be heard on the IACHR website: http://www.oas.org/OASpage/videosasf/2007/03/CIDH_1.wmv. The issue is discussed in greater detail in Bradford Mank, “Standing and Global Warming: Is injury to all injury to none?”, 35 *Environmental Law* 1.

¹⁴⁰ ICHRP roundtable, Geneva, October 13, 2007.

Human rights litigation ordinarily works by addressing specific injuries caused by specific perpetrators and experienced by specific victims. Climate change harms, by contrast, result from numerous diffuse acts performed by countless individuals in scores of locations, generally unrelated to one another. The actual harms experienced are only indirectly linked, at best, to any particular act or person. No-one doubts that climate change has victims—specific individuals who undergo suffering as a result of global warming, whether it be contracting a tropical disease in northern Italy, or losing a year’s (or a decade’s) crops to drought. The problem arises with identifying perpetrators and causes: who is liable and for what act? In practice, the two questions are nearly indistinguishable in the case of climate change. No single act, for example, caused the warming temperatures in Rimini that created conditions for tiger mosquitoes to survive and breed, contributing to a recent outbreak of chikungunya, for example. One might blame many intermediate actors for having allowed such an outbreak to happen.¹⁴¹ But the true perpetrators are presumably the countless emitters located all over the planet whose cumulative actions have led to global warming.

Specific actors *are* nevertheless responsible for climate change—namely, all those who overuse carbon fuels. But it is far from obvious who in particular should be targeted for a given responsibility. Some 20% of the world’s population cumulatively overuses the global carbon dump. While it is possible to target, within that group, certain intense overusers, such an approach will not get us very far. Things look very different depending on the angle from which we view the problem. Should we assign responsibility to end-users of the carbon dump? Or further upstream to major producers and technological enablers? The first option means targeting much of the wealthy population of the world. The second targets large industries that are not, in any case, based in any one nation: the fossil fuel industry, notably perhaps, but also the power, aviation and automobile sectors. Easier to reach are builders, foresters and farmers, each of whom contributes a significant portion of manmade greenhouse gases. But these are highly disparate groups many of whom are based in poorer low-carbon countries.

It might therefore seem most obvious to assign responsibility to states. Yet this too is complex. Responsibility varies, often dramatically, even *within* countries. And, as already noted, many of the biggest emitters are not in any case based in any one state: they act globally. Furthermore, if emissions are broken down by consumption rather than production, it is quickly apparent that many of the emissions created in poor countries too ends up contributing to the lifestyles of the wealthy. In addition, states can be hard to pin down. They must act in the general interest—and powerful arguments can be and have been made that acting to stop or slow climate change might *not* be in the general interest—or at least in the narrow national interest of states with much to lose from economic restructuring but little to fear from limited global warming. Moreover, governments themselves are not the major producers of greenhouse gases—public sector emissions are less at issue (for public goods such as street-lighting, healthcare and infrastructure building) than state failure to regulate the emissions of private actors.

¹⁴¹ Elisabeth Rosenthal, “As Earth Warms Up, Tropical Virus Moves to Italy”, *The New York Times*, December 23, 2007. In principle one could focus on partial contributory causes in such cases—to sue state health authorities, for example, for failing to eliminate the mosquitoes or forestalling chikungunya; or to sue the passenger who brought the disease into the country or the air company that allowed him to do so. In practice, each of these “failures” is actually a failure to adapt to climate change. Litigation might indeed play a critical role in addressing adaptation failures, in indicating urgent areas for adaptation attention with a view to factoring in human rights considerations into adaptation policy (see below). At present, however, these cases too are unlikely to succeed. But this is a separate question from holding the primary perpetrators responsible for impacts they have caused.

Governments might then be liable for failing to stop or slow emissions when they could do so. This certainly appears a good basis for litigation, but again on inspection it is complex. The great majority of the world's governments can plausibly claim that they *are* acting to regulate greenhouse gas emissions—or so, at least, the intensive international negotiations related to the UNFCCC would appear to indicate. A state can plausibly argue that international agreement is vital before drastic domestic action is taken: to act outside the scope of international agreement would be to court disaster for its populations, who would then lose the benefits of a carbon economy (according to such a claim) *and still* suffer the consequences of climate change.¹⁴² Finally, assigning responsibility to states rather than private actors means that the persons most likely to experience significant climate change damages have little or no legal recourse for those harms—because they reside in precisely the states that cannot be held responsible for climate change, either morally or legally.

For all these reasons, litigation is likely to be most effective under two quite different circumstances: first, where cases are taken domestically, against rich country governments that have failed to regulate resulting in harms experienced within that same rich country. Second, where countries experience serious harms, they might have recourse to suing other countries for failing to regulate, in one or more interstate tribunals.

In addition to theoretical issues, it is also important to address and respond to potential practical difficulties that may arise from linking human rights and climate change. First, the climate change response process, led by the IPCC and the UNFCCC, is dominated in general by experts in the physical sciences. As ICHRP has noted: “[t]he study of climate change began among meteorologists, became firmly entrenched in the physical sciences, and has only gradually--if inevitably--reached into the social sciences.”¹⁴³ Consequently, there is an almost complete lack of understanding of human rights systems and their potential value within the IPCC and, more importantly, within the UNFCCC process (both among states and the Secretariat). The words “human rights” are almost totally absent from core UNFCCC and IPCC documentation. For its part, the human rights community, despite obvious overlap, has until recently been equally reluctant to address climate change. This is both because the issue is seen by many states as one that belongs squarely in the natural sciences (i.e., it is the responsibility of environment ministries rather than foreign ministries). This reasoning also explains the reticence of many states to ask OHCHR to prepare the study on human rights and climate change, as they felt it was beyond the organization's competence and capacity. This in turn explains why UNHRC 7/23 stipulates that the report must be compiled “in consultation with and taking into account the views of” the IPCC and UNFCCC, and also why the final report clearly states that it is entirely formulated on the basis of agreed science (i.e., IPCC and UNFCCC science).

States often argue that human rights must be dealt with by the Human Rights Council and climate change by the UNFCCC. As the United States notes in its submission, “the United States takes the view that a ‘human rights approach’ to addressing climate change is unlikely to be

¹⁴² This argument was put forward by the US federal government in the case *Mass. v. EPA* discussed below. The fact that major emitting countries [such as China] were not bound by Kyoto targets means, it was claimed, that any US actions would be ineffective as well as painful.

¹⁴³ Climate Change and Human Rights, *supra* note 4, at 3.

effective, and that climate change can be more appropriately addressed through traditional systems of international cooperation and international mechanisms for addressing this problem, including through the UNFCCC process.”¹⁴⁴ This ignores the fact that both climate change and human rights are horizontal issues and thus will necessarily (and indeed do) appear in the context of the work of a range of different U.N. bodies. The impact of climate change, within the context of their mandate, has been or is being actively addressed by a range of different U.N. bodies including, inter alia, the United Nations Development Programme (“UNDP”), the World Health Organisation (“WHO”), and the Office of the U.N. High Commissioner for Refugees (“UNHCR”).

A third, more tactical concern raised informally by some states is that including human rights in negotiations on the post-Kyoto climate change framework would perversely make delegations less likely to sign up to stringent emission reduction targets for fear that, if they were to fail to reach those targets, they might leave themselves open to litigation.

A final important practical constraint relates to a lack of political trust between developed and developing countries. In a broad sense, this lack of trust manifests itself, on the part of industrialized countries, in a fear that individuals or even countries that have suffered or will suffer harm could use any officially recognized linkages between human rights and climate change as a political or legal weapon against them. Some developed countries also have concerns that developing countries may be using the issue of climate change as a “backdoor” to reintroduce the related and controversial issues of extraterritorial application of human rights and the establishment of a new universal “right to a safe and secure environment.” For developing countries, mistrust manifests itself as a suspicion that the West wants to use human rights as a way of either preventing their development (i.e., climate change affects human rights and thus countries must slow the process of industrialization) or of conditionalizing climate change adaptation funds.

On the last point, these suspicions are unlikely to have been allayed by a review of the U.K. and U.S. submissions to the OHCHR, which, in the case of the U.K. submission, calls for a compact for climate change funding under which recipient countries would “pledge to act appropriately by targeting the poorest and most vulnerable in their own countries, ensuring transparency and accountability of the finance, ensuring wide participation and integration of civil society and affected groups,” and, in the case of the U.S. submission, claims that “[w]ell-governed societies are inherently more adaptable to changing economic, social and environmental conditions of all kinds.”

There is evidence to suggest that these barriers are being broken down. For example, during the twenty-ninth plenary session of the IPCC (August 31-September 4, 2008), a number of members emphasized the importance of reaching out to the social sciences for future assessment reports, while Amjad Abdulla from the Maldives, who was elected Vice-Chair of Working Group II, campaigned partly on the need to integrate a human or human-rights focus into the IPCC's work on climate change impacts. Similarly, in late January 2009, both the OHCHR and the UNFCCC Secretariat decided to establish informal focal points on the issue of human rights and climate change to exchange information and coordinate action.

¹⁴⁴ U.S. OHCHR Report Submission, p. 4.

Moreover, arguments that the international human rights machinery might replace or undermine the UNFCCC process, that the inclusion of human rights wording might make states less likely to sign up to binding targets through fear of litigation, and that human rights might be used as some kind of political or legal football between North and South, all reflect the misconception, referred to earlier, that the utility of a human rights approach is limited to recognizing and seeking remedy for violations of those rights, thus ignoring the normative or instructive value of human rights principles. Seen in this sense, it is clear that human rights thinking has the potential to strengthen and complement the IPCC and UNFCCC processes, rather than undermine, endanger, or replace them. As the OHCHR notes in its report, “[i]nternational human rights law complements the [UNFCCC] by underlining that international cooperation is not only expedient but also a human rights obligation and that its central objective is the realization of human rights,”¹⁴⁵ and, in the context of those negotiations, “[h]uman rights standards and principles should inform and strengthen policy-making . . . promoting coherence and sustainable outcomes.”¹⁴⁶ In conclusion, the various theoretical or practical arguments put forward to argue against further action on linking climate change with human rights are, for the large part, invalid and are, moreover, based on a fundamental misconception of the potential value and utility of human rights. That said, they do remain important*463 both as warning markers to guard against potential pitfalls and, especially in the case of path dependency, as potential obstacles to progress.

Ideas on the practical application of human rights principles within international climate change policy-making may include the creation of a mechanism to provide greater participation among indigenous peoples and local communities in negotiations, especially with respect to the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (“UN-REDD”); the establishment of a new UNFCCC subsidiary body to study, monitor, report on, and provide guidance regarding the human dimension of climate change, including human rights; the drafting of technical papers by the Subsidiary Body for Scientific and Technical Advice (“SBSTA”), the Subsidiary Body for Implementation (“SBI”), or the Clean Development Mechanism Executive Board on the utility of human rights norms in the work of the UNFCCC; and the inclusion of human rights standards as a criteria when reviewing State implementation of UNFCCC commitments. While such a scenario might offer a possible way forward, it is nevertheless clear that much remains to be done in the short- and medium-term to successfully and effectively integrate human rights principles into climate change policy, even if the level of interest in and support for such a course (both quantitatively and qualitatively speaking) gives some cause for cautious optimism.

First, by confirming that climate change has a range of significant implications for human rights, the Human Rights Council has indirectly, but perhaps not inadvertently, drawn attention to a major gap in the international human rights conventions--namely the lack of an explicit right to a safe and secure environment. It is clear that climate change itself does not directly affect human rights. Rather, global warming causes environmental change, which in turn affects human rights. Thus, to properly protect and promote human rights--all of which are dependent on a safe and secure environment--it is clear that the international community should give

¹⁴⁵ OHCHR Report, *supra* note 30, P 99.

¹⁴⁶ *Id.* p. 80.

renewed attention to the relative merits of declaring “environmental rights” at the international level.