

VOLUME 8

Climate Change and the Right to Food

A Comprehensive Study

By Columbia Law School – Human Rights Institute



CLIMATE CHANGE AND THE RIGHT TO FOOD

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A Comprehensive Study

By Columbia Law School – Human Rights Institute

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ABSTRACT

Climate change and the policies instituted to combat it are affecting the realization of the right to food in myriad, often unnoticed ways. This report highlights how – despite the common objective to preserve human welfare for present and future generations – the climate change regime and the human rights regime addressing the right to food have failed to coordinate their agendas and to collaborate to each other’s mutual benefit. The current climate change regime fails to accurately address the human harms resulting from climate change itself, and is not operating with the necessary safeguards and preventive measures to ensure that mitigation and adaptation measures are fully complementary to the right to food obligations of states and non-state actors. Likewise, the human rights regime insufficiently utilizes the tools available to deal with problems of climate change-related threats to the enjoyment of the right to food. The report proposes concrete methods by which institutions can address climate change problems and realize the right to food symbiotically, in compliance with the principles of systemic integration under international law.

PREFACE

More than a billion people are suffering from severe hunger worldwide, three-quarters of them live in rural areas and depend directly on agriculture for their food. Political mismanagement and political failures have contributed to this tragic situation. The current hunger crisis is aggravated further by climate change and the economic crisis. Both hit the poorest of the poor the hardest.

Climate change is predicted to affect agricultural production and food security in developing countries by far the most. Small farmers, rural workers, and other people who are already vulnerable and experiencing food insecurity are likely to be the first and worst affected. They are confronted with the immediate risk of increased crop failure, a lack of appropriate seeds and planting materials, and loss of livestock. It is clear that the current system of agricultural production is not able to feed the world of tomorrow.

Without comprehensive and far-reaching adaptation strategies, climate change will severely endanger the human right to food in developing countries. It is not only shrinking productive farmlands, decreasing soil fertility, less water availability, and increasingly precarious and extreme climatic conditions that pose new threats to world food security. Adaptation and mitigation strategies of industrialized countries that do not put the needs of vulnerable people first also greatly affect food security in developing countries. Biofuel production intended to reduce greenhouse gas emissions as well as export-related food production will compete with food production at the local and domestic market levels.

International measures to combat climate change should avoid negatively affecting those who are already vulnerable. An international climate change regime has to put the particular needs of the poor first. The human rights approach provides a comprehensive set of instruments and criteria. This is why the Heinrich Böll Stiftung tries its best to bring together the human rights and climate change agenda.

Negotiating a climate regime without respecting questions of equality and justice – and, thus, the particular needs of developing countries – will lead the world community to make the same serious mistakes that have been made in international trade negotiations thusfar. If the rich countries continue to ignore the needs of the poor, it is likely that the climate negotiations will lead to the same dead-end as with the trade negotiations. However, in negotiating a climate regime, there is no time for several rounds of trial and error negotiations, as has been the case with the WTO since the start of the Doha Round – we need a climate deal now to keep the 2°C objective.

This study tries to bridge the climate change regime with the human rights regime by: (1) analyzing how climate change and relevant mitigation and adaptation plans may interfere with the realization of the right to food; (2) giving recommendations on how the climate change regime can do more to adequately address the human rights harms resulting from climate change itself and how the tools that exist within the human rights regime could be improved to deal with the negative impacts of climate change on the right to food.

By publishing this report, the Heinrich Böll Foundation would like to initiate a debate among policymakers, practitioners, and scientists on the complex relationship between climate change and the right to food. The intention is to reach as broad an audience as possible. Some might be very well-versed in either climate change issues or in the promotion of human rights, whereas some may be experts in neither.

The Heinrich Böll Foundation would like to offer profound thanks to Columbia Law School's Human Rights Institute and the UN Rapporteur on the Right to Food Olivier de Schutter for their outstanding work.

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FOREWORD

We know that the impacts of climate change on the world's populations are going to worsen. We know that they will be felt disproportionately by some of the poorest countries and the most vulnerable within those countries. And we know that small-scale farmers and indigenous peoples – as well as those, more generally, who depend on land and water resources for their livelihoods and constitute half of the world's hungry – will suffer most.

All this we know from increasingly undisputed scientific data. As noted in this report, even the US government's National Intelligence Council, reporting at the end of the skeptical Bush administration, highlighted the threat of global warming to food supplies. The threat to food security is at the root of concerns about massive migration and threats to domestic and cross-border security.

How much worse would all this be if the world's response ignored or exacerbated the impacts on the poorest and hungriest? By basing our mitigation and adaptation policies on a human rights framework – taking into account, in particular, the right to adequate food – we can ensure that these policies will be designed and implemented in ways that prioritize the needs of the most vulnerable groups, and that climate change will not further contribute to inequality and poverty. The aim of this report is to show how combating climate change and protecting the right to food can go hand in hand, although this will not happen by chance: it can only happen by design, and it requires a careful monitoring of the measures adopted in the name of combating climate change and of adapting to its impacts.

The internationally recognized right to food is primarily the right to policies that ensure access to adequate food. It is also the right to be protected from policies that undermine that access. There are clear risks to this right at every level of response to climate change – from mitigation efforts involving expanded planting of crops for fuels to adaptation measures that rely on imported foods. Over the past two decades, human rights has emerged as a common language of ethical obligations, a shared standard of human protection, and a framework for assessing economic and social development. But it has been largely absent from the climate change discussion. This is not incidental to what the report identifies as the relative absence of checks in the system to ensure that policies will be developed to ensure the right to food and protect against violations.

This report builds on the work of climate change advocates who have advanced the science and are now leading the struggle to implement a normative framework and practical mechanisms for redressing the effects. It notes the close correlation of the climate change framework with the goals of human rights, and

goes on to identify gaps where the framework may fail to meet those goals. For the authors of the report, human rights offer analytic tools and a basis for policy recommendations. They have no illusions that human rights proponents and institutions have the answers or have played a sufficient role in seeking them. The report brings critical scrutiny to the human rights institutions that have been slow to treat climate change as significant to their mission.

The recommendations in this report are almost entirely oriented toward three critical elements that are thus far lacking and are necessary for building the right to food into the climate change framework, specifically:

- systematically collecting information that will enable sophisticated right to food analysis;
- mandating appropriate individuals and institutions to analyze information in light of the right to food, vet proposals, and seek remedies where problems arise; and, finally,
- identifying how the tools that exist within the human rights regime could be relied upon or improved in order to deal with the negative impacts of climate change on the right to food.

These are, as the report notes, “governance” solutions, primarily intended to ensure that human rights concerns will be voiced and heard in settings where decisions can be made. It is our hope that the report will provide an incentive for the defenders of the right to food throughout the world – but also for the human rights treaty bodies and the special procedures of the Human Rights Council – to do more to document the impact of climate on the right to food, and to provide guidance to governments on preserving this right while adopting the necessary mitigation and adaptation measures that climate change calls for. While the report focuses on the right to adequate food, the methodologies it recommends can also serve to improve compliance with other human rights – such as the right to housing or the rights of indigenous peoples not to be displaced from the lands, territories, and resources that they have traditionally owned or occupied – in the face of the challenge of climate change.

In seeking to speak to readers who are rooted in either climate change or human rights, the report lays out the institutional mechanisms relevant to both. In an effort to contribute to the debate and move beyond generalities, it enters into many of the complex details, both of the climate change regime and of the human rights institutional machinery. As does every effort in the field, it draws on the important work that has been done by the Intergovernmental Panel on Climate Change. More specifically, it joins the discussion that was initiated by the excellent work of the International Council on Human Rights Policy (*Climate Change and Human Rights: A Rough Guide*), German NGOs (*Climate Change, Food Security and the Right to Food*), and the Food and Agriculture Organization (*Climate Change and Food Security: A Framework Document*), all published in 2008. We deeply appreciate the support of the Heinrich Böll Foundation in publishing this contribution.

The report represents a collaboration between Columbia Law School's Human Rights Institute and the UN Special Rapporteur on the Right to Food that has inspired both to pursue further work in the area. The report and its conclusions are the work of the Institute.

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EXECUTIVE SUMMARY

Introduction: Disconnect between the Climate Change Regime and the Human Rights Framework

Climate change has overwhelming repercussions for international food security and the right to adequate food. Changing weather patterns impact people's ability to obtain access to sufficient food in many ways: expanding droughts affect crop yields, ocean acidification alters ecosystems and causes fish populations to decrease, and extreme weather conditions destroy entire ecosystems, including the food sources growing within.

Populations already vulnerable to food insecurity are particularly affected by these ongoing climate disruptions, and will be even more so in the future. Populations in developing countries that live on marginal lands on which they depend for their livelihoods will suffer from worsening conditions. Unfortunately, these same populations are ill-equipped to stop climate threats to their food supplies, and they are generally not even the ones most responsible for present climatic changes. While developed countries have started implementing initiatives to reduce greenhouse gas emissions, these measures do not reach far enough to protect vulnerable populations against future harm. Many of these populations lack the requisite financial and technological means to adapt to rapidly changing weather patterns. Worse still, some of the climate change measures have subsequent negative human impacts of their own.

Human choices can influence both the pace of climate change and the extent to which societies will be able to build resilience to its effects. This is where human rights come in. A human rights approach to climate change policies puts people first and takes into account human vulnerabilities in the design of climate change programs. Such an approach also requires that states operate fastest where the right to food is most at risk. More concretely, it requires states to avoid future climate-related food insecurity by limiting their emissions and by controlling with particular vigilance polluting non-state actors within their sphere of control. It also means adopting rigorous policies to cope with unavoidable impacts of climate change. Moreover, a rights-based perspective ensures that measures adopted to combat or cope with climate change do not have adverse effects on human rights of their own. These requirements are not limited to the domestic realm: particularly in the field of social and economic rights like the right to food, states are required to cooperate at the international level to limit current and prevent future human rights violations, even more so when faced with global challenges such as climate change. That said, the rights-based approach does not

merely aspire to achieve a policy program in which individuals at risk passively receive protection; rather, it seeks to empower them by giving them the most relevant information about climate change impacts, granting them a meaningful voice in policy-making processes, and ensuring them a means to hold accountable those most responsible for harm resulting from climate change and related policies.

The current climate change regime shares a core objective with the human rights regime: both aim, at different levels, to protect human dignity for present and future generations. The underlying principles of both regimes also show various parallels. Just as climate change policy sets sustainable global development as an essential principle, human rights approaches seek sustainable solutions to tackle the deleterious effects of environmental degradation on livelihoods. International environmental law requires that states refrain from transboundary harm; human rights law expects states to respect human rights beyond their own borders, as well. Under the climate change regime, states have common but differentiated responsibilities to implement their international commitments, including the duty to limit adverse climate change effects; under human rights law, states should act according to their available resources to realize individuals' rights, and they should hold accountable those most responsible for human rights violations.

In spite of these commonalities, however, bold measures to effectively coordinate the climate change and human rights agendas are growing in isolation from one another. In the climate change regime, a concrete rights-based approach is mostly absent from programs that deal with the impact of climate change and related measures on food security. Likewise, human rights institutions have been slow in recognizing the many direct and indirect impacts climate change has on human rights. They have not yet adapted the tools at their disposal to better anticipate and remedy these impacts.

In search of potential bridges to mutually reinforce both agendas, this report first scrutinizes climate change policies and actions, with the aim of identifying the problems and remedies required in dealing with right to food issues. The report then turns to examine human rights mechanisms, and discusses both their current ability to address climate change harms, as well as ways these mechanisms could be improved in light of the challenge of adapting to and mitigating climate change.

The Climate Change Regime and the Right to Food

Chapter 2 of this report analyzes the major commitments, mechanisms, and policies established under the two main climate change agreements to date: the UN Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. It focuses on three aspects that are essential for the right to food. Firstly, it assesses whether the collection and analysis of information about climate change and related policies adequately addresses potential impacts on

food security and vulnerability. Secondly, it assesses the efficacy of mitigation measures, that is, policies and actions taken to reduce factors contributing to global warming (reduction of greenhouse gas emissions, preservation of forests as carbon sinks, etc.). Such policies are needed to avoid future climate change harm and to ensure sustainable food security. Yet, they can also pose challenges to realizing the right to food today, as they often require reallocating scarce resources that currently serve to produce food. Thirdly, chapter 2 looks into the efficacy of adaptation measures, that is, measures taken to cope with and build resilience against unavoidable changes. More specifically, it analyzes whether initiatives have been taken to adapt ways of producing and distributing food in light of changing climate conditions.

Information

To anticipate right to food violations, research should focus on how climate change will affect the availability, accessibility, adequacy, and sustainability of food supplies and how climate change policies impact food security – for better or for worse. Currently, key sources of such information include the Intergovernmental Panel on Climate Change (IPCC), which summarizes scientific research output on climate change, and National Communications from UNFCCC member states. Both of these sources examine climate change causes and impacts, as well as mitigation and adaptation measures.

For example, the IPCC used its 2007 report to illustrate the growing awareness of the impacts of climate change on food security by incorporating a chapter on “Food, Fibre and Forests.” While this is a welcome addition to climate change reporting, currently available scientific data still leaves a number of gaps regarding climate change impacts on food security. Often, the available information covers only those regions that have the funding to carry out such research, creating an important and noticeable gap between knowledge about impacts in developed and in developing countries. This is exacerbated by the fact that much local knowledge of marginalized communities in developing countries may not make it into reports. As a result, regions that may already have very limited financial means to use to adapt to the adverse impacts of climate change are further handicapped by the lack of information available regarding local impacts. Ideally, the IPCC would collaborate with institutions such as the Food and Agriculture Organization of the United Nations (FAO) to adapt existing food security assessment tools in order to better capture links between climate change and new instances of food insecurity.

Similarly, through so-called National Communications, states self-report on compliance with their commitments under the UNFCCC and – if ratified – those under the Kyoto Protocol. Those commitments differ for developed (or, in UNFCCC terminology, “Annex I”) countries and developing countries, and reporting obligations vary along with those differences. Annex I countries, which have historically contributed most to global warming, have stricter duties to

combat climate change and compensate for its adverse effects. Reports of Annex I countries therefore focus on mitigation measures. If these countries fail to accurately present this type of information, they are penalized under the Kyoto Protocol. Beyond reporting on emissions and mitigation measures however, reporting obligations become less precise and less stringent. Guidelines for reporting on climate change *impacts* for instance, and on measures taken to adapt to such impacts, are relatively vague. As a consequence, Annex I countries are not particularly encouraged to thoroughly assess how climate change affects food security on their territory and how they prevent right to food violations, even though domestic and regional programs sometimes fill that gap.

In comparison, Non-Annex I countries are asked to report more explicitly on adverse impacts on climate change, including on food security. Little guidance is given as to how such food vulnerability assessment should be carried out, however. This gap could be addressed by using human rights assessment tools in the climate change framework. These tools require investigation into who is particularly affected, how local communities are informed on climate change issues, and whether they have an opportunity to participate in policy-making to build resilience. Similar questions should be asked with regard to the local impacts of mitigation policies – a topic that is insufficiently covered at present.

Mitigation

Absent drastic measures to lessen greenhouse gas emissions, climate change risks and harms will continue to increase and will affect people across the globe in many unpredictable ways. Perhaps unsurprisingly because of these widespread effects, mitigation is the area where states have made the most progress in adopting climate change policies. While current commitments under the Kyoto Protocol are still largely insufficient to prevent “dangerous climate change” (+2°C from pre-industrial levels), incentives to reduce emissions are bolder than for other areas of climate change policy.

In the current regime, states have much discretion as to how they reach the technical emission commitments they have agreed to. They can participate in “flexible mechanisms” to reach their emission quotas, for example, through programs such as trading emission credits under so-called cap-and-trade systems and through the Clean Development Mechanism (CDM), which encourages industrialized states to invest in sustainable emission-reduction projects in developing countries. Problematically, however, where discretion enters into climate change policy, the views of the most vulnerable groups tend to be ignored. The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD), for instance, encourages developed countries and their companies to make investments in forest preservation of developing countries, but has few mechanisms that allow the views of local populations relying on these forests for their livelihood to be adequately taken into account. Equally problematic are

the potential food security threats resulting from investments in new forms of energy such as clean coal and agrofuels – although the environmental balance of agrofuels production is by no means clear, and sometimes has been shown to be clearly negative. They indeed rely on precious resources (farmland, water) that could otherwise be used for agricultural purposes. Likewise, CDM projects can be approved without rigorous impact assessment as to their potential disparate effects on local populations. Consequently, states or companies may receive credits and encouragement for projects that generate sustainable emissions but that also have a disastrous effect on the food supplies of local communities.

Absent any explicit duty in the climate change framework to directly consider the adverse effects of mitigation measures on human rights such as the right to food, these measures may exacerbate tensions between the long-term goal of combating climate change and the short-term impacts on the most vulnerable populations. Actors initiating mitigation projects should carry out preliminary impact assessments and post-implementation evaluations to ensure that they do not negatively affect enjoyment of human rights.

Adaptation

To some extent, climate change is unavoidable: even in the impossible scenario where all greenhouse gas emissions cease immediately, the climate would keep changing due to lingering pollution and emissions. Consequently, the need to anticipate future climate change harm is pressing.

The importance of adaptation policies has for a long time been underestimated, but they are now becoming a more prominent focus in climate change talks. One of the most concrete initiatives is the National Adaptation Programs of Action (NAPAs), which help Least Developed Countries (LDCs) to identify the most urgent needs in terms of adaptation to climate change.

While initiatives like these are much needed, more coordination between new adaptation programs and existing strategies for the realization of the right to food would be useful. Here again, through joint efforts of human rights institutions, the FAO and the UNFCCC, existing human rights tools can be adapted and used to identify the most pressing threats to food security resulting from climate change and related policies. Moreover, additional consideration is needed to tackle remaining technological, social, and financial barriers hindering adaptation plans. In particular, the transfer of adaptation technology is one aspect of international cooperation that should be bolstered in future talks.

In terms of funds available to promote and create new adaptation measures, the Adaptation Fund is an important step in the right direction: it was established to benefit vulnerable developing countries disproportionately affected by climate change. However, discussions about eligibility have focused on the national level; no guarantee exists that resources will benefit those who are most vulnerable within a given state. Even more importantly, current funding is insufficient to adequately meet the needs of populations most at risk.

Enforcement

Many of the principles and commitments of the UNFCCC are promising. The objective of the regime is to avoid dangerous anthropogenic interference, and states have committed to mitigating and adapting to climate change, to international cooperation to help vulnerable countries build resilience against adverse impacts, and to raise awareness and provide training and education about climate change. However, many of the most promising provisions are vague, and the UNFCCC generally lacks strong enforcement mechanisms (whether through an independent body or through other incentives) to compel states to comply with their commitments. From a rights perspective, this is particularly problematic, not only because many of the obligations would be beneficial for the promotion and protection of human rights if duly implemented, but also because a lack of enforcement mechanisms prevents from holding accountable those who clearly violate their duty to address climate change issues.

The Kyoto Protocol addressed the lack of enforcement through the creation of a Compliance Committee. The Committee does not fill the entire enforcement gap however, since it focuses mainly on compelling Annex I countries to comply with their mitigation commitments. Hence, beyond verifying whether states respect their emission caps, the UNFCCC has little power to enforce current state commitments, let alone provide climate change victims with redress for the harm they endure. Consequently, some particularly affected states or groups have turned to other institutions outside the climate change framework to seek redress for climate change harm. There, however, they have encountered another obstacle: the lack of understanding or willingness of other institutions to recognize climate change as an issue that affects human well-being. This issue is addressed in the next section of the report.

The Human Rights Regime and Climate Change

While the climate change framework has failed to adopt a rights-based approach in several key areas of its work, human rights institutions have also failed to deploy some relevant tools at their disposal to adequately flag the links between climate change and human rights.

There are three areas where human rights institutions and other bodies such as the FAO could take more proactive measures:

- They could raise awareness about the impacts of climate change on human rights, including by clarifying existing human rights obligations of states confronted with climate change challenges.
- They could use human rights tools such as monitoring guidelines, indicators, and benchmarks to more accurately assess vulnerability to climate change effects and evaluate climate change policies, if necessary adapting these tools.

- They could use the enforcement mechanisms of the human rights framework to hold accountable those most responsible for climate change harm.

Raising Awareness and Clarifying State Obligations

Human rights institutions have only recently started considering climate change as a human rights issue rather than a merely environmental problem. The Human Rights Council has passed a few resolutions on the topic and asked the High Commissioner for Human Rights to draft an analytical report on climate change and human rights. While the High Commissioner's study was useful in mapping the impacts of climate change on human rights, it provided little guidance for states to simultaneously address human rights and climate change concerns. Aside from a panel discussion, which took place in June 2009, there is little follow-up currently under way.

More could be done. As the UN Human Rights Council has done in the past when faced with global crises – and in light of the upcoming climate change negotiations in Copenhagen in December 2009 – the Council could hold a thematic Special Session on Climate Change in the near future. Given the persistent, overarching threat climate change poses, the Council could appoint a Special Rapporteur who would have a mandate to study the issue more thoroughly, look into best and worst practices, present his or her research and findings during international climate change negotiations, and foster a better understanding of the manifold issues arising from global warming.

Oftentimes, international bodies such as the Human Rights Council have placed emerging issues on their agendas in response to substantial advocacy efforts of NGOs. In the case of climate change, however, human rights groups – with a few noteworthy exceptions – have lagged in pressing governmental institutions to consider the wide range of human rights implications arising from the climate change policies they adopt. Civil society could do more to encourage not only formal human rights institutions but also domestic and international climate change bodies to identify and address the human side of climate change more adeptly.

A more direct tool for raising awareness would be to clarify current human rights obligations that states must respect when confronted with climate change issues. None of the bodies that have a mandate to provide guidance in that regard have dealt with climate change yet. Treaty bodies such as the Committee on Economic, Social and Cultural Rights, or the Advisory Committee of the Human Rights Council, can currently provide authoritative comments and practical assistance to more accurately deal with these issues.

Adapting and Using Human Rights Tools

Human rights experts have developed qualitative and quantitative tools to analyze the causes of human rights violations and measure progress in realizing

certain rights. These tools are often used in the context of human rights reporting: they allow for systematic evaluation and redress of factors that have a recurrent impact on human rights and for comparable data over time and across countries. Some of these tools consist of questionnaires that states answer when they report on the overall human rights context in their country, including for intergovernmental human rights discussions under the Council's Universal Periodic Review (UPR) or complying with reporting obligations under specific treaties they have ratified. So far, these guidelines are generally silent on the issue of climate change being a relevant factor worth reporting on. Even when states have chosen to report on climate change and the challenges they have faced, the ensuing dialogue has been disappointing. Guidelines for UPR and treaty-specific reporting could be amended to ensure that the issue is systematically addressed, and states should put more effort in engaging in constructive dialogue that prioritizes practical solutions. For the right to food specifically, the FAO has already indicated which types of questions states should be asked to assess when faced with climate change; these could be incorporated in the work of human rights institutions and mainstreamed for other rights that are particularly at risk.

Other tools are specifically designed to detect food insecurity, relying on statistical data and precise indicators. Among these are the FAO's Food Insecurity and Vulnerability Information and Mapping Systems (FIVIMS), which already integrate environmental factors in their food security analysis. However, the data FIVIMS use are static rather than dynamic – and may therefore be inadequate to address climate change. Also, FIVIMS are generally silent about international causes of food vulnerability, which is problematic given the transboundary nature of climate change. The FAO could collaborate with the UNFCCC Secretariat to redesign this food security assessment tool to better capture climate change threats by including an explicit analysis of vulnerabilities to climate change.

While FIVIMS only address food insecurity, other tools such as the IBSA Procedure (Indicators, Benchmarks, Scoping, Assessment) deal more comprehensively with the realization of the right to food. This means that they not only look at the outcome – whether food is available, accessible, and adequate across a country or region – but also at whether there are adequate policies in place to realize the right to food, based on the benchmarks states set for themselves following a dialogue with the Committee. Such policies should be based on interaction with those most directly concerned through information-sharing and participation of local communities in the decision-making process. Climate change could be better integrated within the IBSA Procedure in the future. However, even with the IBSA Procedure as currently road-tested by the Committee on Economic, Social and Cultural Rights, a general assessment of the local influence of climate change is presently lacking.

Finally, human rights bodies (human rights treaty bodies and regional human rights institutions at the international level, and courts or other independent institutions at the domestic level) could take bolder measures to hold accountable those who contribute most to climate change and the resulting human rights violations. In order to effectively carry out that function, however, these monitoring bodies must first overcome several perceived and real challenges, even once the obligations imposed on both states (at the international level) and private actors (through national regulations) are defined with sufficient clarity.

First, those whose human rights are affected by climate change are likely to be numerous, diverse, and diffuse. They are sometimes particularly vulnerable, making it difficult for them to mobilize. To overcome this, the example set by judicial systems with broad standing clauses should be followed by allowing for class actions or even public interest litigation. Additionally, a comprehensive understanding of who qualifies as victims would help identify those most in need of redress and policy change.

Second, perpetrators are also likely to be disparate and plentiful, making it difficult to single out individual responsibility and to establish causal links between particular human rights violations and the actions that feed into them. A first, rather strategic solution could be to challenge those actions that not only contribute to climate change globally but also to environmental degradation at the local level. Such actions include excessive pollution or mass-scale deforestation practices. A second strategy could be to examine groups that are particularly polluting – such as the fossil fuel sector or developed industrial states that disproportionately contribute to climate change – and sue them as an aggregated entity. Finally, it should be realized that state liability could arise not just because of the state's direct interference with human rights, but also when it fails to protect or fulfill those rights. States should be held accountable when they fail to adequately control private actors or when they encourage mitigation practices that have adverse impacts on local communities.

Conclusion

This report highlights (1) how climate change and relevant mitigation and adaptation plans may interfere with the realization of the right to food; (2) how the climate change regime can do more to adequately address the human rights harms resulting from climate change itself, and how it has not properly tailored adaptation and mitigation measures to be aligned with right to food obligations; and (3) how the tools existing within the human rights regime are currently either underutilized or underdeveloped to deal with the negative impacts of climate change on the right to food.

International law requires that related and relevant areas in the climate change and right to food debate be harmonized and integrated wherever

possible. So far, institutions on both sides have generally refrained from starting a mutual dialogue, in spite of overlapping principles and objectives to preserve human welfare. This dialogue is overdue and should be initiated immediately. It will benefit both the fight against climate change and the realization of human rights. States already are duty-bound to consider climate change-related impacts on human rights. International law already contains many of the necessary norms to ensure that climate change policies do not adversely affect human rights. The next step is to pursue integration of the preexisting frameworks by building awareness of the common goals and laying the groundwork for a harmonized effort on the part of both regimes. This report therefore proposes concrete methods for relevant institutions to address climate change problems and realize the right to food concurrently.



1.0 Introduction

The impacts of climate change will fall disproportionately upon developing countries and the poor persons within all countries, and thereby exacerbate inequities in health status and access to adequate food, clean water, and other resources. Populations in developing countries are generally exposed to relatively high risks of adverse impacts from climate change. In addition, poverty and other factors create conditions of low adaptive capacity in most developing countries.

Intergovernmental Panel on Climate Change, 2001¹

The dramatic ramifications of climate change are becoming increasingly familiar to citizens and policymakers around the world. Climate change is already affecting the livelihoods of millions through extreme weather events and systemic changes in meteorological patterns. The prospects for the future include, at the very least, accelerated changes exacerbating known problems. The worst predictions are much more dire.

At issue in the climate change debate is how life on the planet will change – as a result of global warming itself, but also in response to efforts to mitigate its effects – and which international and domestic policy choices will be made to adapt to the changed circumstances. As such, everything about climate change could be said to involve “human rights” – the right to life and the resources to sustain that life, above all. But that broad observation threatens to obscure the many ways in which human beings are differentially impacted by climate change as well as by policies for mitigation and adaptation. Climate change is quickly producing impacts on lives. Who is most affected may be a function of chance – like the loss of sufficient water to sustain existence in a fragile zone – but much depends on political and economic choices that are currently under consideration or that will be made in the future. Human choices can influence both the pace of climate change and the extent to which we build resilience to its effects. This is where human rights come in.

This report examines the place of international human rights norms, methodologies, and institutions – specifically those related to the right to food – in the evolving climate change framework. It builds on important studies coming out of the scientific, policy, and advocacy communities that are focusing increasingly on the human impacts of climate change and the tools necessary to respond.

¹ The IPCC is widely accepted as the most authoritative research body on climate change.

Some recent reports draw on the best science available to identify the differential impacts that will affect populations, including the effects on food security and other conditions for survival. A few studies focus on the role of human rights, critically examining its absence from most of the current discussion.

These studies and our research for this report focus on the gaps in the current human rights and climate change frameworks, but they also highlight the potential for these frameworks to be mutually reinforcing. This report addresses these issues directly. It speaks to human rights “enthusiasts,” “skeptics,” and “agnostics,” identifying where the right to food is already implicated, and where it offers tools either for understanding problems or designing solutions. It draws out convergences in the human rights and climate change frameworks while scrutinizing problems in both frameworks’ mechanisms that could play a productive role. In sum, it assesses whether the climate change regime is well-equipped to detect and account for right to food issues resulting from climate change and related policies, and whether the human rights framework adequately recognizes climate change as a relevant right to food matter.

The report was is the product of research by the Columbia Law School Human Rights Clinic, under the supervision of Professor Peter Rosenblum and with advice from the UN Special Rapporteur on the Right to Food, Professor Olivier De Schutter. It was primarily written by Elisabeth Caesens and Maritere Padilla Rodriguez, with contributions from Peter Rosenblum, Iris Figueroa, Tyler Gillard and Zoe Pershing-Foley. It is divided into two major components. Chapter 2 provides an examination of the current climate change framework through the lens of human rights and, particularly, the right to food. Chapter 3 explores the right to food in the human rights regime, assessing its capacity to deal with the challenges of climate change. The final chapter presents a synthesis and recommendations.

Before proceeding with the core analysis, this introduction briefly reviews the major implications of climate change – including mitigation and adaptation measures – on food security. It then surveys several recent reports that build on this information and subsequently explores the potential benefits and perceived drawbacks of a human rights analysis in this particular area. Finally, this introduction provides a better understanding of what the right to adequate food entails when states and rights-holders face the challenges of mitigating and adapting to climate change.

1.1 Climate Change Impacts on Food Security

Climate change is already affecting the lives and livelihoods of millions of people. This is primarily the result of the direct impact of global warming on weather patterns and weather crises, as documented by the Intergovernmental Panel on Climate Change (IPCC). The IPCC and others are showing that the impacts will vary. Problematically, as the IPCC identified in 2001, the poorest countries

are among those that will be hardest hit.² As the tools of analysis have become more sophisticated, the disparity between rich and poor countries has become increasingly clear. A similar pattern of disparate impacts on the most vulnerable populations also appears at the domestic level of many countries – whether overall rich or poor – turning climate change into not only an international but also an internal human rights issue.

The link from changes in weather patterns to forced migration and political turmoil in overburdened and fragile states is increasingly clear as well. As early as 1990, the IPCC singled out migration as potentially the single greatest impact of climate change.³ Desertification in the fragile Sahel region of Africa has been a constantly disruptive factor. For example, Sudan scholars agree that climate change-induced migration was among the many complex causes of the conflict in Darfur.⁴

Droughts and Conflict: Example of Sudan

Water availability in Sudan is particularly threatened by climate change, and the impacts of this problem have far-reaching effects, including food security and civilian violence. Rises in temperature will continue to increase the rate of water evaporation and accelerate the frequency of extreme climate events such as droughts, floods, and dust storms. This situation, coupled with increased water consumption, population growth, and a high variation in rainfall, will – if left untended – culminate in a water crisis, which could further exacerbate the violent partisan conflicts already taking place in the country. In recent years, increasing drought cycles and the Sahara’s southward expansion over much of the country have created conflicts between nomadic and sedentary groups over shortages of water and land. The scarcity of natural resources also spurs the migration of people from rural and remote areas to the cities, which causes stress on service and health infrastructure, and creates larger numbers of displaced and refugee communities, who in turn put more stress on local communities’ already-limited food and water resources. The combination of decades of drought, desertification, and overpopulation have contributed significantly to the conflicts in Sudan, as nomads searching for water have migrated to land mainly occupied by farming communities. The role of climate change in this enduring conflict cannot be underestimated.

Source: J. Sachs, “Land, Water and Conflict,” *Newsweek* [July 7–14, 2008]

- 2 IPCC, *Third Assessment Report* (2001), p. 121 [hereafter *IPCC 3AR*].
- 3 See O. Brown, *Migration and Climate Change* (the International Office of Migration, 2008).
- 4 This is not to excuse human rights violations by the government of Sudan. For the role of recurring droughts in fueling migration and subsequent conflict, see M. Mamdani, *Saviors and Survivors: Darfur, Politics and the War on Terror* (2009).

Less visible are the impacts resulting from policies intended to address climate change, either by mitigating its effects or adapting to them. The requirement to mitigate climate change through diminished use of fossil fuels, through forest conservation, or changes in agricultural practices may affect development in some parts of the world far more than others. Admittedly, climate change mitigation schemes could, if carefully designed and matched by financial and technical support, further rather than impede sustainable development; some see climate change as an opportunity to be seized rather than an inevitably negative phenomenon.⁵ However, this synergy is far from mainstreamed in practice. A massive shift to biofuels, justified as an attempt to reduce emissions, contributes to rising grain prices and may displace food production. These are not necessarily arguments against taking such mitigating actions, but they are factors to be accounted for and assessed in weighing appropriate policy measures. Furthermore, the adaptation challenges will put new pressures on fragile states already unable to support the basic needs of their populations. The full impact of these measures will depend on political choices that are currently under consideration. Whether and to what extent they take into account the vulnerabilities of particular states and populations depends on those choices, and it may be here that human rights become most relevant.

1.1.1 Direct Effects

The human (anthropogenic) causes of climate change are no longer doubted by serious scientists. The IPCC reports that anthropogenic greenhouse gases (GHG) emissions increased by 70 percent between 1970 and 2004.⁶ Global increases of CO₂ and other GHG concentrations⁷ are primarily due to fossil fuel use, deforestation, and non-sustainable agricultural practices.⁸ The accumulation of these gases in the atmosphere alters the natural GHG effect. Earth's infrared radiation is trapped and reflected back to the surface in excess of the natural GHG effect, causing global warming and climate change.

Global warming affects access to and production of food in two major ways. First, global warming leads to changing weather patterns, including variations in temperature as well as wind and water distribution patterns. Second, global warming affects broader ecosystems, altering long-standing biodiversity in regions across the globe. Alterations in both weather patterns and ecosystems

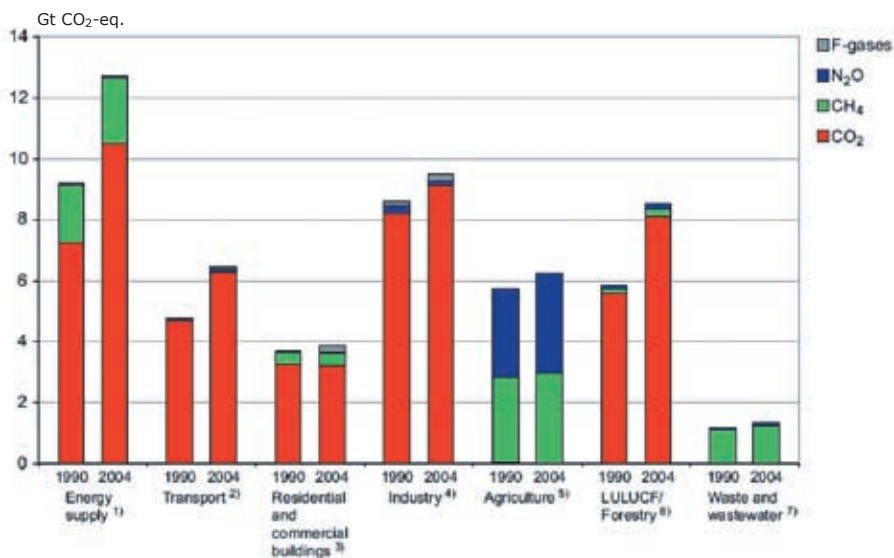
5 See e.g. Rajendra Pachauri on 'climate entrepreneurs' in an interview with Martin Wright, *Green Futures* (9 January 2009).

6 IPCC, *Climate Change 2007: Synthesis Report, Summary for Policymakers*, an assessment of the IPCC (2007), [hereafter *IPCC Synthesis Report 2007*], available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf

7 Carbon dioxide (CO₂) is the most important anthropogenic GHG, in conjunction with methane (CH₄), nitrous oxide (N₂O) and others (ibid.).

8 *IPCC Synthesis Report 2007; IPCC Fourth Assessment Report*, Working Group 3, chap. 1 (2007) [hereafter *IPCC 4AR WG**].

Emissions per Sector



Source: IPCC 4AR WG3, chap. 1 [2007], p. 105

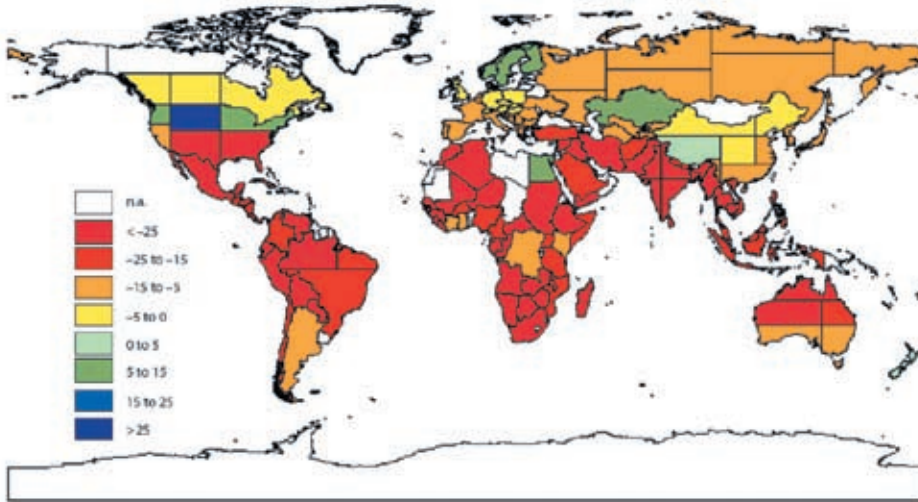
have major impacts on food availability, accessibility, adequacy, and sustainability. Reports before this one have already portrayed in great detail the various ways in which climate change will interfere with food security.⁹ This brief introduction is not meant to give an exhaustive overview; rather, it seeks to give a sense of the magnitude of shifts in food security and nutrition due to climate change.

Drought is one of the most documented results of global warming. It has already become increasingly common in arid inland areas around the globe, requiring farmers and other food producers to migrate great distances, making them unable to sustain livestock and crops that previously thrived in their home regions. According to accepted models, some other regions of the world will experience increased rainfall in the form of excessive rains and floods, including permanent flooding linked to rising sea levels.

It is also true, however, that changes in temperature and water supply may increase agricultural yields in some regions. Cynically, the accepted models show that these regions coincide primarily with wealthier countries, including those

⁹ Among these publications are Fischer et al., *Climate Change and Agricultural Vulnerability*, International Institute for Applied Systems Analysis (2002); Easterling et al., "Food, Fibre and Forest Products," in IPCC 4AR WG2, chap. 5 (2007); William Cline, *Global Warming and Agriculture: Impact Estimates by Country* (2007) [hereafter *Cline Report 2007*]; German-Watch and Brot für die Welt, *Climate Change, Food Security and the Right to Food* (2008) [hereafter *Brot für die Welt Report 2008*]; FAO, *Food and Agriculture Organization, Climate Change and Food Security: A Framework Document* (2008) [hereafter *FAO Climate Change Framework Document 2008*].

Impact of Global Warming on Agricultural Productivity



Source: W. Cline, *Global Warming and Agriculture*, chap. 5 [2007], p. 72 (percent)

that are responsible for a disproportionate amount of the pollutants that drive global warming. While beneficial in the short-term, in the long run these same regions will also feel adverse impacts of non-linear climatic evolutions, which will be difficult to anticipate, and may only further the global food insecurity already felt by the world's more vulnerable populations.

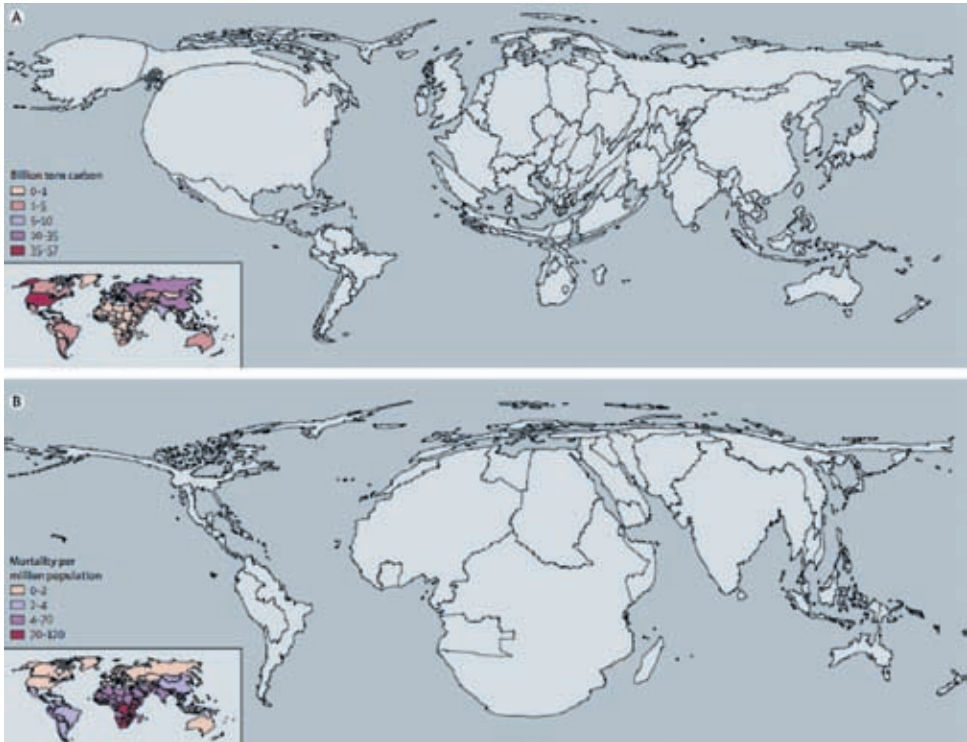
In addition to droughts and floods, one of the most visible impacts of climate change has been the increased incidence of weather-related disasters, from hurricanes and tropical storms to tornadoes and tsunamis. These natural disasters destroy or permanently alter the land they reach, forcing people to relocate and alter their agricultural practices and food sources. Those who return must also come up with new, unfamiliar means of providing for themselves and their families in areas where natural resources have been depleted and human infrastructure destroyed. According to the United Nations Development Programme (UNDP), "some 262 million people were affected by climate disasters annually from 2000–2004, over 98 percent of them in the developing world."¹⁰

In the long term, weather changes will continue to have an effect on major ecosystems. For example, biodiversity is likely to suffer in important areas of the world. As people and organisms migrate, this is likely to create new health risks in the form of diseases and more uncertainties regarding sustainability for populations, but the magnitude of these impacts is not as readily predictable.

These are some of the most widely acknowledged direct effects of climate change. While responses are currently insufficient to address these adverse impacts, policy analysts have developed and started implementing proposals

¹⁰ UNDP 2007, in *Brot für die Welt Report 2008*, p. 40.

Carbon Emissions vs. Mortality from Climate-sensitive Health Diseases



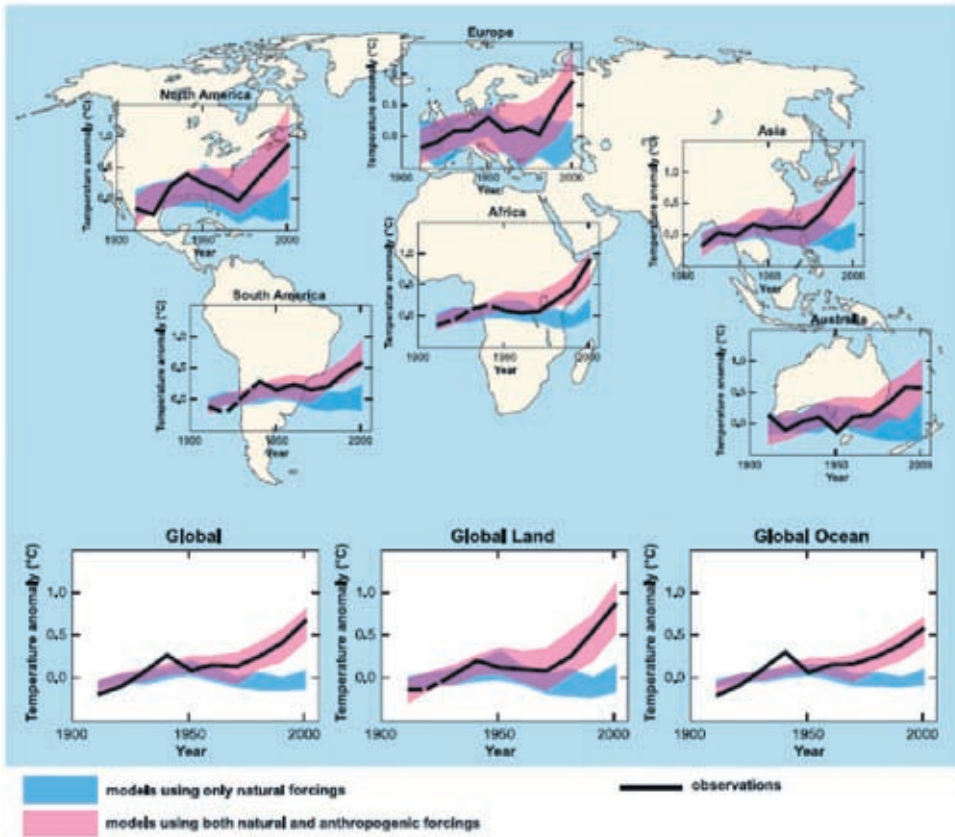
Source: Lancet and University College London Institute for Global Health Commission, *Managing the Health Effects of Climate Change* [2009]

to mitigate the effects of climate change and how to cope with them. These measures are themselves likely to have significant differential impacts on populations, with the poorer states and more vulnerable populations placed at further disadvantage. At the same time, their implementation is subject to political choices at the international and national level, rather than raw chance or scientific certainty. As discussed at length in chapter 2, these measures are being implemented through international treaties and accords that are intended – but are not fully enabled – to take the full range of issues into account. The next sections summarize some major aspects of these policies and how they, too, impact lives and livelihoods.

1.1.2 Indirect Effects of Mitigation Policies on Food Security

Mitigation measures are actions that human beings take in order to stop or lessen the process of climate change. The intent of mitigation measures is to lower the rate at which the environmental and meteorological changes are occurring and delay – or in the long run even reverse – temperature rises as quickly and efficiently as possible.

Map – Anthropogenic Sources of Global Warming



Source: *IPCC 4AR WGI*, chap. 9 [2007]

Mitigation is relevant for food security in more than one respect. First, ensuring food security in the long run necessitates rigorous mitigation policies to avoid reaching threshold levels of dangerous climate change. Global warming will not only cause the challenges to food production described above, it will also set off other natural triggers if temperatures rise even 1°C, having still more devastating and unpredictable effects on food security.¹¹

While the importance of combating climate change for the long-term preservation of food security cannot be sufficiently stressed, mitigation measures are equally important for food security today. The international framework in place to combat climate change gives states great flexibility in determining the manner in which they will seek to mitigate GHG emissions. This is one area, however, where policies are likely to produce winners and losers, both within and across states. Indeed, some mitigation measures rely on resources that are currently devoted to food production, exacerbating tensions between fighting climate

¹¹ *IPCC Synthesis Report 2007*.

change in the long term and securing the availability, accessibility, and adequacy of food supplies and nutrition in the short term.

A case in point are the measures proposed to reduce the consumption of fossil fuels (oil, coal, natural gas) – an essential cause of GHG emissions. At this time, agrofuels represent one widely backed alternative to fossil fuels around the world, even though their production presents the greatest risks with the most uncertain results for the environment.¹² For example, though ethanol (the most commonly used agrofuel) decreases GHG emissions, ethanol production from corn and sugar cane is associated with deforestation in Brazil and a weak energetic balance in the United States; biodiesel from palm oil has been reported to be a major cause of deforestation in Indonesia and in other areas. More importantly for this report, the production of agrofuels has decreased the land available for food crops and contributed to major increases in the prices of staple foods. Similar examples of reallocation of resources to the benefit of clean energy but at the expense of food security are the “cleaning” of coal, which requires massive amounts of water that could otherwise be used for irrigation of arable land, or building dams for hydro-electricity that may significantly affect agriculture if policymakers have not adequately factored in changes in the water supply downstream.

The interaction between mitigating climate change and ensuring food security is further complicated by the fact that a considerable part of GHG emissions comes from the way we currently produce and consume food. Industrial farming relies on fertilizers produced with fossil fuels and produces GHG. Traditional agriculture, using practices like slashing and burning, also produces greenhouse gases.¹³ Forests, in contrast, play an essential role in capturing CO₂; they store 45 percent of terrestrial carbon. Management policies for forest and agricultural land can have a tremendous impact in mitigation or in exacerbation of climate change.¹⁴ At the same time, management practices have direct, though differential, effects on food producers and food consumers. Consequently, mitigating climate change through the reduction of emissions from land use may also impact food production methods – for better or for worse.

Climate change and related mitigation measures thus have an ambiguous relationship to food security. On the one hand, the prospect of long-term adverse effects of climate change (and even short-term ones, since these impacts are already being felt) requires states to act swiftly. On the other hand, the current food and nutrition needs of the populations living where mitigation measures are being implemented could be negatively affected in both foreseen and unanticipated ways.

12 N. Pena, “Biofuel for Transportation: A Climate Perspective” (Pew Center on Global Climate Change, 2008).

13 As much as 14 percent of GHGs are produced by farming practices (*Cline Report 2007*).

14 *IPCC 4AR WG3*, chap. 8 (2007) (dealing with mitigation in the sector of agriculture).

1.1.3 Adaptation Policies and Food Security

No matter what mitigation measures are undertaken in the coming years, the direct effects of climate change are expected to increase. In fact, this would be true even if harmful emissions stopped entirely and immediately. Nevertheless, systemic efforts to adapt to the changing circumstances were initially controversial. Many advocates for change feared that a focus on adaptation would divert attention from reducing emissions and lull the public into believing that long-term sustainable adaptation was possible without substantial changes.¹⁵ But the cost of delay and the benefits of planned adaptation have become increasingly clear.¹⁶ It is equally clear that meaningful adaptation measures will require a substantial commitment from developed countries in support of developing countries. Thus, attention to adaptation becomes a major issue of international cooperation.¹⁷

The problems with adaptation come in many forms. As alluded to above, one of the most transcendent is the gap in capacity and wealth between countries, in light of the fact that disproportionate destruction will occur in the poorest and the weakest nations. In other words, the countries best able to adapt – and to benefit from the technology of adaptation – are not likely to be the countries where the most vulnerable live or to be the countries most affected by climate change.

Moreover, while economists and organizations like the FAO have developed valuable models for a systematic approach to adaptation, those programs will require a major engagement of political will and support from bilateral donors and the development community. In the meantime, there is a risk of ad hoc measures being implemented with destructive short and long-term consequences. In regard to food needs, the most immediate adaptation measure has been to increase the global food trade, thereby burning more fossil fuels in transport without providing a sustainable solution. There is also considerable discussion about the launching of a “green revolution” for Africa, but the efforts in this direction have mostly sought to increase the ability of farmers to produce through use of improved seeds and the provision of fertilizers, without sufficient attention being paid to the improvement of agricultural practices in order to make them more environmentally friendly.¹⁸

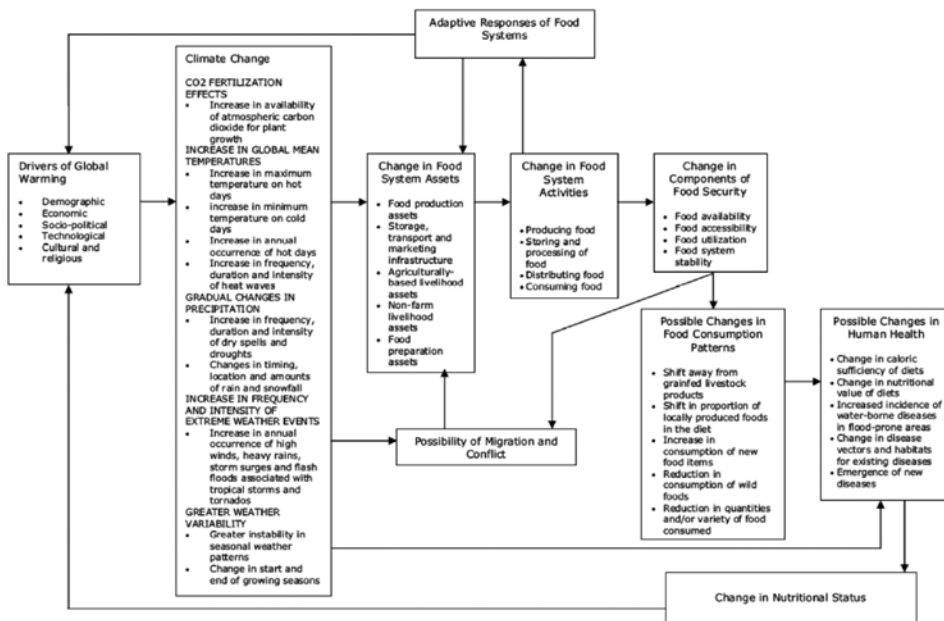
¹⁵ *Brot für die Welt Report 2008* (see note 9).

¹⁶ See Sir Nicholas Stern, *The Economics of Climate Change* (2006) (hereafter *Stern Review 2006*); *Brot für die Welt Report 2008*, p. 30.

¹⁷ “The results of the Bali climate summit [2007] help put adaptation work and policies on equal footing with the negotiations related to mitigation,” *Brot für die Welt Report 2008*, p. 38. Also see chapter 2, *infra*, discussion of UNFCCC obligations for new and additional funding from richer to poorer countries to support adaptation measures.

¹⁸ See the Statement of the UN Special Rapporteur on the right to food: “The Human Right to Food and the Challenges Facing an African ‘Green Revolution,’” (March 2009), available at <http://www.srfood.org>

Linking Climate Change, Mitigation, Adaptation, and Food Security



Source: *FAO Climate Change Framework 2008*

Hence, the measures that are taken to adapt to the impacts of climate change or to decelerate climate change are far from neutral for the realization of the right to food. The complete realm of potential impacts needs to be carefully considered when adopting and implementing any further climate change policies.

1.2 The Evolving Consensus

1.2.1 Setbacks to Development, Food Security at Risk

The diverse impacts of climate change on lives and livelihoods are the subject of increased attention from the international community – governmental and nongovernmental. Early discussions of climate change focused on physical science and big-picture effects at the expense of bringing attention to bear on the social impacts and the disproportionate threat to poor states and vulnerable populations. However, that imbalance is increasingly disappearing in academic and scientific literature, as well as in popular conceptions of climate change issues. The 2001 report of the IPCC highlighted the disproportionate damage that

developing countries would face.¹⁹ The 2007 report included specific attention to issues of food and agriculture.²⁰

With better data, it is becoming possible to make more specific assessments about the regional and local impacts of climate change. UNDP devoted its 2007 Development Report to the impact of climate change, stressing its potential to slow development and “exacerbate deep inequalities within countries.”²¹ *The Anatomy of a Silent Crisis*, a 2009 report by the Global Humanitarian Forum, presided over by Kofi Annan, focuses attention on the ways in which global warming is already affecting the lives of millions across the world. It stresses the profound issues of justice and equity for the poorest, which are at stake in the crisis.

The World Bank (WB), which has played a prominent role in setting development policy both through direct project funding and influence over national development plans, now recognizes the need to rethink operational paradigms in light of climate change. In a widely quoted foreword to its evaluation of WB energy reforms, the Director-General of the Independent Evaluation Group (IEG) wrote: “[s]cientific consensus warns that climate change threatens to derail development, while business-as-usual development threatens to destabilize the climate.”²² In an understated way, the IEG noted the “tensions” that the Bank would have to confront with the traditional manner of operation.

With regard to the specific issue of food security, both intergovernmental and nongovernmental organizations are mobilizing available data and producing sophisticated analyses of the current threats. In 2008, several German NGOs published *Climate Change, Food Security and the Right to Adequate Food*, a detailed analysis of the effects of climate change on food security including regional studies on Africa and Asia.²³ The report matches data on hunger trends with information about the impacts of climate change on food security, drawing largely on the IPCC’s 2007 report. It identifies gaps in current agendas for climate change and, in particular, stresses the need for major investments to adapt to the known impacts on food security. Likewise, the FAO produced *Climate Change and Food Security: A Framework Document*, which provides an overview of how climate change affects food security and how land and forest use can help mitigate climate change.²⁴ The report also set out guidelines on how to cope with climate change in the field of food production and distribution, and spelled out a working program for the FAO in light of new challenges posed by climate change.

19 IPCC 3AR (2001), p. 121.

20 See in particular IPCC 4AR WG2, chap. 5 (2007).

21 Global Humanitarian Forum, *The Anatomy of a Silent Crisis, Climate Change – Human Impact Report* (2009).

22 V. Thomas, foreword to *Climate Change and the World Bank Group, Phase I: An Evaluation of World Bank Win-Win Energy Policy Reforms* (The World Bank, 2008).

23 *Brot für die Welt Report 2008* (see note 9).

24 *FAO Climate Change Framework 2008* (see note 9).

Even the United States government, when presenting its classified National Intelligence Council (NIC) assessment of climate change in June 2008, stressed food impacts as the first on a list of predictable effects likely to have national security implications in the near future.²⁵ Subsequent regional studies by the NIC have focused carefully on impacts for food and agriculture, noting the collision course likely to be produced by current development programs colliding with the realities of climate change.

National Intelligence Council Report: Climate Change Exacerbating Food Insecurity in India

[T]he poor condition of people engaged in agriculture and/or born into lower castes reduces the robustness of the overall economy. Climate change, adding to existing problems of the agricultural system, may worsen conditions for the large poor segment of the population enough to severely tax the economic and industrial resources of the central and state governments.

Thus, the impacts of climate change are likely to be felt first and foremost in the agricultural sector and associated water availability, with many people affected by lower food productivity (e.g., hunger, malnutrition, and its consequences for education and productive economic life) and burdens on the central and state governments in dealing with smallholders and landless workers who will require assistance. Educational and employment inequalities will exacerbate these conditions. Some (or many) of these workers will migrate to urban areas, placing stress on cities. The need to add to or replace infrastructure affected by climate change (e.g., in the energy and transportation sectors, as well as irrigation systems) will present additional economic costs. Finally, migrants, particularly from Bangladesh, will affect India's economy by providing competition for low cost labor.

Source: National Intelligence Council, *Impact of Climate Change to 2030*, p. 26 [April 2009]; see also "Climate Change Seen as Security Threat for US," *New York Times* [Aug. 8, 2009]

1.2.2 Understanding the Absence of Human Rights from the Climate Change Debate

Despite this increased attention given to the impacts of climate change on poor countries and vulnerable populations and the fact that, in other contexts, human

²⁵ House Permanent Select Committee on Intelligence House Select Committee on Energy Independence and Global Warming, *National Intelligence Assessment on the National Security Implications of Global Climate Change to 2030*, statement for the record of Dr. Thomas Fingar, Deputy Director (June 25, 2008).

rights have been celebrated as providing a common language of ethical obligation, a shared standard of human protection, and a framework for economic and social development, human rights have been mostly absent from the discussion in the area of climate change. The absence of explicit references to human rights in the UN Framework Convention on Climate Change (UNFCCC) and the subsequent Kyoto Protocol is a striking example of this lack of integration. While some human rights references have been proposed for the post-Kyoto agreement, this remains uncertain and does not necessarily guarantee that human rights will be mainstreamed throughout the actual implementation of these and former commitments.

Some other ways in which human rights have been notably absent include:

- The IPCC, which reviews the major literature in the field, makes only passing reference to human rights even in the 2007 report, which has been so important in exploring the social impacts of climate change.
- The major United Nations human rights mechanisms – the UN Office of the High Commissioner for Human Rights (UNOHCHR), the Human Rights Council, and the independent rapporteurs and experts that report to the Council and the General Assembly – were, in effect, absent from the climate change debate until last year.
- Most nongovernmental human rights organizations have not actively addressed climate change in the course of their reporting and advocacy.

The absence has not gone unnoticed; in fact, the last year has seen major engagements from UN and nongovernmental agencies, among others. The International Council for Human Rights Policy (ICHRP) paved the way with its “Rough Guide” to Climate Change and Human Rights in 2008.²⁶ Oxfam released *Climate Wrongs and Human Rights* around the same time,²⁷ and, acting at the request of the Human Rights Council, the UNOHCHR followed with a report mapping the general human rights consequences of climate change in early 2009.²⁸

This report combines the consistent rights-based perspective on climate change (like the ICHRP, Oxfam, and the UNOHCHR) with the specific focus on elements of climate change that are particularly relevant for the right to food – one of the rights most likely to be severely affected by climate change (like Brot für die Welt and the FAO). The outcome is a range of gaps between the climate change regime and institutions actively promoting human rights, such as the right to food, along with potential solutions to bridge these gaps.

26 International Council on Human Rights Policy, *Climate Change and Human Rights: A Rough Guide* (2008) [hereafter *ICHRP Rough Guide 2008*].

27 Oxfam, *Climate Wrongs and Human Rights – Putting People at the Heart of Climate Change Policy* (2008) [hereafter *Oxfam Climate Wrongs 2008*].

28 UN Office of the High Commissioner for Human Rights, Report on the Relationship between Climate Change and Human Rights, UN Doc A/HRC/10/61 of January 15, 2009 [hereafter *UNOHCHR Climate Change Report 2009*], available at http://www2.ohchr.org/english/issues/climatechange/docs/A.HRC.10.61_AUV.pdf

Before promoting the importance of human rights in climate change analysis, however, an understanding is needed of its relative absence until now. The possible reasons, as suggested by observers, include some that are inadvertent and others that may be more intentional,²⁹ often depending on the institution relying on them. Both are significant.

Among the more *innocent* reasons are disciplinary distinctions that have kept the environmental and human rights communities largely separate. Concern for climate change originated in a scientific community that was attentive to prospective harms. Human rights analysts and activists tend to come from a legal background and focus on existing harms. It is only the more recent data produced by climate change analysts – and reflected in the IPCC reports – that is beginning to produce the kind of disaggregated and regionally specific information that triggers traditional human rights concern.

Even within the legal sphere, environmental lawyers and human rights lawyers have evolved in two separate regimes, and specialization has made it increasingly difficult to cross over into the other (see box Legal Fragmentation). The fragmentation of international law is all the more striking in that the main objectives of the climate change regime and of the human rights regime are – as this report will show – highly compatible: both seek to minimize the chance of adverse effects resulting from climate change.

Legal Fragmentation

In terms of legal development, the mutual isolation of environmental law and human rights law is a paradigmatic example of fragmentation of international law. Such legal fragmentation is nearly unavoidable, due to the tendency toward specialization and diversification in developing international legal mechanisms for such important and impactful issues.

Fragmentation can lead to overlapping and even conflicting sets of norms that are each framed without due consideration of the other. This is particularly true in the context of environmental law, where procedural fairness and environmental justice have emerged as important principles without reference to human rights.

While the reasons for legal fragmentation are understandable, its effects can be harmful. As distinct legal languages evolve, it becomes impossible to deal with complex issues involving problems relating to both domains because no single source of law exists for easy reference and consideration. Deliberate efforts to isolate the law in disparate frameworks, including the mechanisms of dispute resolution and adjudication, undermine the process and create incentives for shopping among fora and legal regimes.

29 ICHRP *Rough Guide* 2008, pp. 3–6.

The absence may also be intentional. It is striking that champions of human rights, including Kofi Annan, avoid explicit reference to them while arguing strenuously that direct and immediate action on climate change is essential to protecting the poorest and the most vulnerable. For those who have followed or participated in the active struggles to mainstream human rights in the UN system – to implement a rights-based approach to development, the rights of the child driving the work of UNICEF, or the right to food at the FAO – the absence suggests a throwback to conscious efforts to keep human rights away from diplomacy and development.³⁰

Human Rights Mainstreaming: The FAO

Several international organizations have mainstreamed human rights for the implementation of their specific mandates. Among them is the Food and Agriculture Organization. The FAO has been applying a rights-based approach to food security throughout its activities, in accordance with the Voluntary Guidelines on the Right to Food that the FAO Council adopted in 2004. To ensure sufficient follow-up and implementation of the Guidelines, the FAO Council set up a Right to Food Unit, which assists stakeholders in the realization of the right to food by building capacity, raising awareness, and developing monitoring tools, as well as integrating the right to food into the FAO's work.

Source: FAO Right to Food Unit

It could be the legalism of human rights that dissuades proponents from endorsing them. As discussed below, the human rights movement has been instrumental in developing tools and tactics that reach well beyond positive law, but human rights are also – and in the minds of many, predominantly – positive legal obligations. Where climate change advocates are struggling to convince reluctant states and a skeptical public, legal obligations may appear too abrasive. They seek to end discussion at a time when it needs to begin.

Proponents could also be dissuaded by the weakness of international human rights in securing transnational obligations, particularly economic commitments. Although the major international economic and social rights covenant requires international economic and technical assistance,³¹ and although developing countries have long argued for economic support as an element of the right

³⁰ In the 1990s, for example, the UN Security Council developed elaborate procedures to avoid allowing the High Commissioner for Human Rights to appear before it in her official capacity.

³¹ Article 2.1 of the International Covenant on Economic, Social and Cultural Rights, adopted in 1966, entered into force in 1976.

to development, the human rights mechanisms have been notoriously weak in furthering such purposes.³²

For some, the absence of human rights in the climate change discussion may reflect its perceived irrelevance, perhaps because of the urgency of the current situation or because of the need for scientific certainty to prevail over individual rights. These are important concerns that require clarification of the content of human rights and of its limits.

1.3 The Added Value of a Human Rights Perspective

1.3.1 “The Rights-based Approach”

Human rights are rarely absolute; the major treaties recognize limitations for a variety of reasons, and some may argue that this weakens the effectiveness of human rights in emergency situations. But that is only a small part of the answer. Advocates would be right to stress how important human rights have been during emergencies, including, for example, health emergencies like the AIDS epidemic. According to many proponents, the value of human rights in that struggle has not come from the legal obligations of treaties. Rather, it has come in the tools that have developed in the name of human rights in order to focus attention on vulnerable groups and bolster their demands for procedural fairness and accountability.

These, then, are some of the elements of added value that the human rights framework may offer to the climate change discussion:

- the priority that human rights accord to the individual harm felt by victims
- the requirement of monitoring and accountability
- the focus on the most vulnerable
- the attention to procedural guarantees

They include elements of what has come to be known as the “rights-based approach” as it has been incorporated into development planning and humanitarian assistance. It focuses on empowering the victim or the object of development planning, giving them actionable rights. It lays stress on non-discrimination, meaningful participation, access to information, transparency and, again, accountability.

The Essence of a Human Rights Perspective

The human rights framework reminds us that climate change is about suffering – about the human misery that results directly from the damage

³² See, e.g., Alston, *Ships Passing in the Night*; Jeff Sachs on the government commitments to support the MDGs.

we are doing to nature. [I]f we build human rights criteria into our future planning, we will better understand who is at risk, and how we should act to protect them.

Source: Mary Robinson, former UN High Commissioner for Human Rights, foreword to ICHRP, *Climate Change and Human Rights: A Rough Guide* [2008]

This does not exclude the element of positive law that is human rights. States have made formal commitments to human rights treaties and, in almost all countries, human rights obligations in their own laws. In most cases, those obligations include economic and social rights obligations as well as those that are civil and political. Human rights commitments could arguably boost climate change advocacy: as the ICHRP points out: “[H]uman rights language can add considerable normative traction to arguments in favor of strong mitigation and adaptation policies. For human rights groups and 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.”³³

At the same time, there are cases where these obligations might appear to directly conflict with exigencies of addressing the climate change crisis. Indeed, as flagged above, when describing the tensions between combating climate change and ensuring food security, there is a chance that mitigation measures and, to a lesser extent, adaptation measures pose a threat to human rights themselves, and that the will to prevent future adverse climate change-effects leads to adverse effects today. A human rights framework allows for gauging the delicate balance between long-term considerations and current human impacts, and obligations under such a framework will at least allow for hard questions to be addressed directly.

1.3.2 Applying the Rights-based Approach to the Right to Food in the Context of Climate Change

What follows is an overview of human rights principles and right to food obligations, as applied in the context of climate change. While the right to food is rooted in international treaties, most notably the International Covenant on Economic, Social and Cultural Rights (ICESCR), it also gives insight into the underlying principles that characterize a rights-based approach: the focus on those most vulnerable to and most affected by climate change; procedural entitlements for these groups, such as access to information about adverse effects on food security and participation in decision-making on climate change policies that can affect them; and attention to accountability of those causing the greatest harm through disproportionate contribution to climate change or as a result of

³³ ICHRP *Rough Guide* 2008, pp. 20–1.

carelessly designed mitigation and adaptation measures. It is this set of principles and obligations that will serve as the backdrop for assessing whether the current climate change regime allows for adequately dealing with right to food violations resulting from climate change and related policies.

Respecting, Protecting, and Fulfilling the Right to Food When Facing Climate Change

Fundamentally, the right to food recognizes access to food not only as a basic need but as a primary obligation for which states are accountable. Under international law, the right to food is realized “when every man, woman and child, alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement.”³⁴ In its authoritative interpretation of the right to food (General Comment 12), the Committee on Economic, Social, and Cultural Rights provides further guidance as to the implications of the right to food:

*[T]he core content of the right to adequate food implies: (a) the availability of food in a quantity and quality sufficient to satisfy the dietary needs of individuals, free from adverse substances, and acceptable within a given culture; and (b) the accessibility of such food in ways that are sustainable and that do not interfere with the enjoyment of other human rights.*³⁵

Three fundamental components can be derived from this definition: (1) cultural and consumer *acceptability*, (2) *availability*, and (3) *accessibility* (economic and physical).³⁶ In addition, the General Comment points out the intrinsic link between the notions of *sustainability*, adequate food, and food *security*, which implies that measures must be taken now to ensure access to food for future generations.³⁷

One of the core elements to the interpretation of state obligations in human rights is that the obligation extends not only to respecting the right – that is, refraining from negatively affecting the right – but also to protecting and fulfilling it. The obligation to *protect* refers to the regulation by the state of the conduct of third parties within its sphere of control. The obligation to *fulfill* refers to the state’s role in creating the conditions in which the rights can be enjoyed.³⁸ In most cases, the state fulfills its obligations under the right to food by creating or protecting the conditions in which private parties fulfill the right. Only when

34 Article 11(2) ICESCR, as interpreted by Committee on Economic, Social and Cultural Rights, Substantive Issues Arising in the Implementation of the International Covenant on Economic, Social and Cultural Rights: General Comment 12: The Right to Adequate Food (Art. 11) [hereafter “General Comment 12”], UN Doc E/C.12/1999/5, §6.

35 General Comment 12, §§8–10.

36 General Comment 12, §§11 (defining acceptability), 12 (defining availability), 13 (defining economic and physical accessibility).

37 General Comment 12, §7.

38 General Comment 12, §§14–15.

unusual circumstances such as extreme weather events interfere with the normally prevailing conditions will the state actively intervene to ensure that rights remain protected.

Viewed through the lens of climate change, the duty to *respect* requires states to avoid contributing to the environmental harm that undermines access to adequate food.³⁹ A state actively promoting practices that cause excessive GHG emissions (e.g., polluting energy policies) may be blamed for violating its duty to respect the right to food, since it contributes excessively to climate change and, therefore, to desertification and ocean acidification. The duty to respect requires states to stop such harmful policies through, for example, appropriate mitigation measures.

The duty to *protect* requires states to take measures to prevent others from violating the right to food. In this context, it might require states to regulate private actors whose conduct accelerates climate change, for instance polluting industries. Protecting the right to food also means that states should verify the impact of private mitigation activities stimulated through credit mechanisms under the climate change regime. If private actors, for instance, receive economic incentives to invest in forest concessions, the state should ensure this does not affect local communities dependent on forest resources as livelihood.

Finally, the duty to *fulfill* requires the state to act proactively to create an enabling environment where people become self-reliant for food or to supply that food.⁴⁰ If states knowingly contribute to an environment that will make people even more dependent due to land loss, this may violate the duty to *fulfill*, particularly if they do not assist the population in finding new food alternatives. Likewise, states violate the duty to *fulfill* when they do not make sufficient efforts to provide emergency food supplies in the case of natural disasters resulting from climate change.

National and International Duties

Under the ICESCR, states also have the obligation to take measures, both domestically and through international cooperation, to promote and protect the right to food. This is true for social and economic rights in general⁴¹ and for the right to be free from hunger in particular.⁴² The obligation to cooperate at the international level applies not only to the duty to respect but also the duty to protect and fulfill the right to food, and goes beyond mere development aid. At the beginning of his mandate, the present UN Special Rapporteur on the Right to Food noted:

[International assistance] should be understood as having three implications, corresponding respectively to (a) an obligation not pursue policies which have a negative impact on the right to adequate food [respect]; (b)

³⁹ See *Brot für die Welt Report 2008*, pp. 60–1.

⁴⁰ FAO General Council, Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food (2004) p. 2.

⁴¹ Article 2.1 ICESCR and General Comment 3.

⁴² Article 11(2) ICESCR.

an obligation to ensure that third parties, including private actors, do not interfere with the enjoyment of the right to food [protect]; and (c) an obligation to cooperate internationally in order to contribute to the fulfillment of the right to food [fulfill].⁴³

Applied to climate change challenges, respecting the right to food at the international level implies that states refrain from excessively contributing to GHG emissions, since they cause transboundary effects on the right to food. International cooperation to protect the right to food implies that states help assess how climate change disparately affects particularly vulnerable regions, and that they take coordinated actions to mitigate climate change, or at least help one another adapt to its negative effects through transfers of technology and adaptation funding.

Equal Protection

A key feature of the human rights framework is the prohibition of discrimination and the special focus on the most vulnerable. The non-discrimination principle is a critical tool in protecting the most vulnerable. It applies not only to intentional discrimination, but also to facially neutral policies whose effect is to discriminate. In this sense it provides an important basis on which to scrutinize the disparate impacts climate change will have. Indeed, scientific and statistical evidence shows that climate change is expected to affect vulnerable population groups and vulnerable countries far more than wealthy population groups within affected countries. This is the case both among states (e.g., the differential adaptive capacity in light of sea levels in Bangladesh resp. The Netherlands) as within states (e.g., those who depend on the land for their livelihood and those whose incomes derive from non-land-related activities).

Realizing the State's Commitment: Information, Policies, Accountability

In order to ensure that the state is progressively realizing economic and social rights, there must be a base line from which to start, a level of commitment by which to measure the state, and mechanisms for accountability. In terms of the right to food, this translates into comprehensive national strategies to ensure food and nutrition, the mapping of food insecurity and vulnerability, specific legislative commitments based on identified resources, and monitoring and benchmark tools to assess progress.⁴⁴

When adequately deployed, human rights monitoring tools provide valuable information that allow rights-holders to assess the effectiveness of state policies and to better hold accountable policymakers. It also empowers them to voice their opinions, participate in the decision-making process, and ask for redress

⁴³ Olivier De Schutter, *Building Resilience: A Human Rights Framework on the World Food and Nutrition Security*, UN Doc A/HRC/9/23, Sep. 8, 2008.

⁴⁴ General Comment 12, §§21–31.

when they have suffered harm from specific policy choices. The rights to information, participation in decision-making, and access to justice are procedural rights that allow individuals to enforce their substantive rights. They are necessary to empower beneficiaries and to provide victims of violations with “restitution, compensation, satisfaction or guarantees of non-repetition.”⁴⁵

The FAO on Procedural Rights

[A] human rights-based approach ... includes certain key principles: the need to enable individuals to realize the right to take part in the conduct of public affairs, the right to freedom of expression, and the right to seek, receive, and impart information, including in relation to decision-making about policies on realizing the right to adequate food.

Source: FAO, *Voluntary Guidelines to Support the Progressive Realization of the Right to Adequate Food in the Context of National Food Security*, Adopted by the 127th Session of the FAO Council [Nov. 2004], pp. 19 and 24

In the context of climate change, these procedural duties imply that individuals be informed of potential effects of climate change on their food security situation, that they can participate in the broader debate on how to adapt to climate change threats and that local knowledge be taken into account, but also that they have access to remedies when their rights are affected because of climate change effects or policies. Remarkably, in the field of environmental rights, procedural rights have been more explicitly and readily accepted than the right to an appropriate environment as such.⁴⁶ Nevertheless, as discussed in chapter 2, the most important protection of procedural rights in environmental issues, the Aarhus Convention, has not been explicitly incorporated as an inherent governance principle of the climate change regime.⁴⁷

⁴⁵ General Comment 12, §§32–35; see also O. De Schutter, *Building Resilience*, §§17–19, stressing the need to strengthen the justiciability of the right to adequate food. See FAO Right to Food Unit for an overview on constitutional provisions on the right to food.

⁴⁶ For an overview of case law on the procedural rights to a healthy environment, see D. Shelton, “The Environmental Jurisprudence of International Human Rights Tribunals,” in R. Picolotti and J.D. Taillant, eds., *Linking Human Rights and the Environment* (2003), pp. 2–11.

⁴⁷ Recently, a coalition of over 1,000 government representatives and organizations has concluded a conference on the post-Kyoto negotiations stating that “[t]he [December 2009 Climate Conference in Copenhagen] should include the commitments of the Aarhus Convention and include incentives for empowering the participation of citizens.” “The 7 Aarhus Statements on Climate Change,” statement 5 at Beyond Kyoto Conference, Mar. 6, 2009 [hereafter Beyond Kyoto Conference].

1.4 Bridging the Gap between the Climate Change Regime and the Human Rights Framework

This introduction has shown that climate change has major repercussions for international food security and the right to adequate food. Expanding droughts affect crop yields, ocean acidification alters ecosystems and causes fish supplies to decrease, extreme weather conditions destroy entire food stocks. Vulnerable populations are particularly affected and will be even more so in the future. These populations do not have the tools to stop present and future climate threats on their own. They are generally not responsible for present climatologic evolutions. Industrialized countries have started taking initiatives to slow down these problematic evolutions, but they do not reach far enough to protect vulnerable populations against future harm. Even worse, some of the mitigation and adaptation measures have negative human impacts of their own.

The added value of a human rights perspective to climate change policies is that it would put people first, and take particular vulnerabilities into account in the design of mitigation and adaptation programs. Equal protection requires that states and other entities that can bring about change for the good operate most swiftly where the right to food is most at risk, helping the most vulnerable populations that are currently faced with the greatest present, as well as future damage to their lives and livelihoods. This requirement is not confined to the domestic realm: in the field of social and economic rights like the right to food, states are required to cooperate internationally to prevent current and future human rights violations, even more so when faced with supranational challenges such as climate change. Importantly, the rights-based approach also requires that those responsible for adverse impacts on human rights be held accountable.

It is this lens that we choose to adopt when assessing how the current climate change regime – its norms, institutions, mechanisms, and policies – deals with impacts of climate change on food security. Chapter 2 reviews the major components of the climate change regime relevant to the right to food and asks (1) whether current scientific and state-generated information allows for adequately identifying those whose food security is most at risk; (2) whether mitigation measures are sufficient to avoid dangerous climate change and are being reviewed for their potential adverse side-effects on present food security needs; and (3) whether the regime sufficiently acknowledges the need to cope with climate change impacts on food and adequately assists the most vulnerable populations in their adaptation efforts. The analysis will detect positive trends as well as remaining gaps, which are addressed with recommendations for moving forward in the final section of the report.

While the climate change framework may present gaps in adequately considering right to food concerns, human rights institutions should also be scrutinized as to their efforts to flag the links between climate change and human rights. The rights-based approach and concrete right to food obligations seem flexible

enough to be applied to the specific challenges of climate change. Nevertheless, human rights *institutions* do not seem to have deployed all tools at their disposal to recognize climate change as a major human rights issue and to act accordingly by taking bolder measures in promoting human rights in the context of climate change. Chapter 3 will show that the relative passivity of human rights institutions is sometimes due to temporal, financial, or structural restraints – which may prevent them from adequately dealing with climate change even in the future. At other times, however, the problem lies in the persistent lack of awareness that climate change is fundamentally also a human rights issue. As a result, existing tools that could more adequately implement human rights in the context of developing climate change policy have not yet been adapted to this new challenge. We therefore seek to identify the gaps in non-judicial and judicial tools that currently exist in the human rights regime. In the last section of this report, we provide recommendations on how these gaps can be filled.

2.0 Is the International Climate Change Framework Well-equipped to Take into Account Human Rights?

2.1 Introduction

If climate change affects the availability, accessibility, and adequacy of food,⁴⁸ a primary task of the international community is to address the major causes of greenhouse gas (GHG) emissions. It should be done as effectively as possible so as to avoid immediate and long-term human rights violations resulting from climate change. Such climate change mitigation measures are urgent, and they should be robust enough to avoid the 2°C temperature rise, which scientists view as the trigger level of irreversible climate change harm. At the same time, states also need to ensure that actions to mitigate climate change do not violate the human rights in regions where such actions are undertaken. Combating climate change may not proceed at the expense of a state's current obligations under human rights law.

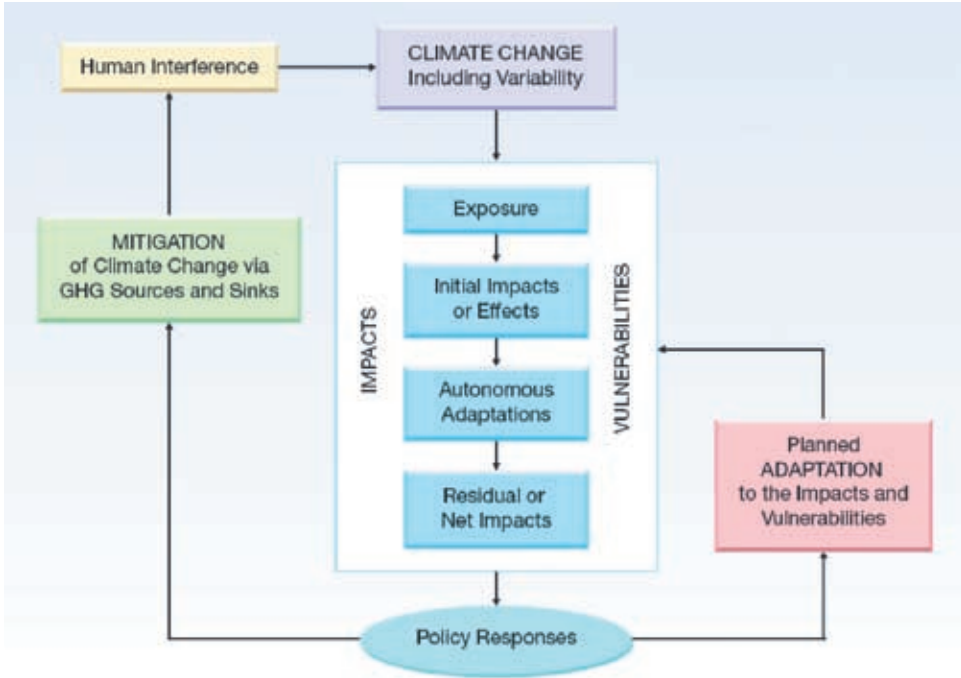
Mitigation measures are not sufficient to prevent all climate change harm, however. Climatic changes have already started and will continue due to the protracted effect of GHG emissions. As a result, actions are also required to cope with the effects of climate change that will continue to occur. As a coalition of German NGOs put it, it is not only necessary to avoid dangerous climate change, it is also necessary to adapt to the unavoidable.⁴⁹ This is all the more true for populations that will be particularly adversely affected by climate change. Often, these populations are those that are already vulnerable to food insecurity, not only because of their geographical locations, where climate change is expected to hit in a particularly severe way – in sub-Saharan Africa, along little protected coast lines, etc. – but also because they lack the capacity to adapt spontaneously or develop through financial investments. Consequently, an international climate change regime should devote particular attention and support to adapta-

48 *IPCC 4AR WG2*, chap. 5 (2007): “All four dimensions of food security, namely food availability (i.e., production and trade), stability of food supplies, access to food, and food utilization will likely be affected by climate change.”

49 *Brot für die Welt Report 2008*, p. 28.

tion measures for the poorest and most vulnerable populations. This includes the transfer of adaptation technology – for example, for the production of crops that are more climate resistant, for the preservation of coral reefs to stabilize the supply of fish in fishery-dependent societies, and for a more efficient use of water in particularly dry regions.

Links between Climate Change, Mitigation, and Adaptation



Source: UNEP, GRID, see <http://www.youthforum2009.org/Portals/6/mitigation%20and%20adaptation.PNG>

One major challenge in adequately combating and coping with climate change threats to food security is the need for reliable information on how climate change will affect the availability, accessibility, and adequacy of food supplies. The unpredictability of climate change impacts at the local level makes it all the more challenging to avoid negative impacts in a sustainable manner. Consequently, considerable investments are required in the field of climate change research and information-sharing to better design both mitigation and adaptation strategies. Such research should not only focus on mere climatologic aspects, but it also needs to take the additional step to estimate human impacts, in particular in regions where the capacity to cope with it is particularly low.

These three components – carefully designed mitigation measures to avoid future climate change impacts on food security, targeted adaptation measures with particular attention to the most fragile societies, and rigorous informa-

tion to accurately plan both types of measures – are highly needed if the climate change regime wants to ensure that right to food issues are adequately taken into account. With these priority components in mind, this section narrows in on the current climate change regime established under the UN Framework Convention on Climate Change (UNFCCC)⁵⁰ and the Kyoto Protocol⁵¹ and analyzes to which extent it is compatible with the obligations of states to respect, protect, and fulfill the human right to food.

2.2 The Climate Change Regime

The climate change regime analyzed in this section is complex and at times daunting for outsiders to the field. Before analyzing whether information gathering, mitigation measures, and adaptation measures in the climate change regime are dealt with in a human rights-compatible way, the following section seeks to summarize and explain the most relevant institutions and mechanisms needed to understand the way the climate change regime functions. While presented in a nutshell here, the most relevant legal provisions, institutions, programs, and mechanisms will be discussed in greater detail throughout this section.

The legal backbone of the climate change framework is the UNFCCC. The UNFCCC was adopted in 1992 at a moment when the international community started taking seriously what scientists had been saying for several decades: that climate change was happening at an increasing pace due to anthropogenic causes, and that it will have pervasive, long-lasting and often unpredictable effects. It spells out the major objective, principles and guidelines to combat climate change harm for industrialized and developing states. Until now, the framework divided up its member states in two major groups, which have different sets of obligations: the so-called Annex I countries, which are mainly developed, highly industrialized countries that have historically produced most GHG emissions and have to take steps to curve their emission rates. Non-Annex I countries comprise the remaining group of member states, some of which will be particularly vulnerable to climate change impacts, such as the Least Developed Countries (LDCs), which receive special assistance under the framework.⁵²

⁵⁰ UNFCCC, adopted on May 9, 1992, entered into force on Mar. 21, 1994.

⁵¹ Kyoto Protocol to the UNFCCC, adopted on Dec. 11, 2007, and entered into force on Feb. 16, 2005.

⁵² Countries that are particularly vulnerable to climate change and receive special attention under the framework are: (1) small islands, (2) countries with low-lying coastal areas, (3) countries with arid and semi-arid areas, forested areas, and areas liable to forest decay, (4) countries with areas prone to natural disasters, (5) countries with areas liable to drought and desertification, (6) countries with areas of high urban atmospheric pollution, (7) countries with areas with fragile ecosystems, (8) countries whose economies are highly dependent on income generated from the production, processing, and export, and/or consumption of fossil fuels, and (8) landlocked and transit countries. See Article 4.8 of the UNFCCC.

Member states gather periodically at the Conference of Parties (COP), which is the supreme body under the Convention.

Before the UNFCCC was adopted in 1992, the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) established the Intergovernmental Panel on Climate Change (IPCC) in 1988, which is the major source of information for the negotiations and decision-making processes under the climate change framework. It is a worldwide coalition of scientists that periodically publishes extensive reports that reflect the most up-to-date scientific consensus on climate change issues. Its information is not only reviewed by the scientific community, but also by governments and policy-makers. The IPCC is supported by three Working Groups and a Task Force on National Greenhouse Gas Inventories, including the Working Group on Climate Change Impacts, Adaptation and Vulnerability, which could provide invaluable input on the impacts of climate change on food security of vulnerable populations. The latest major IPCC publication is the Fourth Assessment Report (4AR), published in 2007.

In addition to the scientific information from the IPCC, the COP also relies on national communications from member states. These cover a wide range of climate change issues, including information about national GHG emissions, mitigation and adaptation measures. In order to address the particular challenges for developing countries in preparing their national communications, the COP created the Consultative Group of Experts on National Communications from Non-Annex I Parties to provide technical assistance and training to those parties and examine their communications.

In addition to these mechanisms, the UNFCCC created two subsidiary bodies that play a major role in the general implementation of the Convention. The first is the Subsidiary Body for Scientific and Technological Advice (SBSTA), which counsels states and institutions on scientific, technological, and methodological climate change matters and serves as a link between the scientific information from the IPCC and the policy-oriented work of states at the COP. For example, the SBSTA created technical guidelines for the preparation of national communications and vulnerability assessments to help states in submitting climate change information. The second subsidiary body is the Subsidiary Body for Implementation (SBI), which checks how the Convention is being applied. It assesses and reviews national communications and emission inventories once these are submitted.

On the basis of this scientific information and national communications, member states gather at the annual COP to further clarify state obligations and establish new mechanisms that help prevent or cope with adverse climate change effects. Some of these schemes mainly aim at furthering mitigation measures that reduce current GHG emissions, including in the field of land-use and forestry. Indeed, as shown in the Introduction, forests, vegetation, and adequately managed soils can trap (or “sink”) greenhouse gases; consequently, mass-scale deforestation and land degradation would be detrimental for the fight

against climate change. A major pillar of the UNFCCC framework is therefore the Land Use, Land Use Change and Forestry (LULUCF) sector. Under the coordination of the aforementioned SBSTA, the LULUCF scheme seeks to promote the conservation and enhancement of these natural emission sinks and reservoirs. A particularly relevant program related to LULUCF is the relatively recent attention for the potential of the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD). The IPCC estimated that forest preservation in developing countries is the mitigation option with the largest and most immediate carbon stock impact in the short term. The SBSTA coordinates the UN-REDD program and tries to find positive incentives to prevent further deforestation in developing countries. Given the intrinsic relation between land use, forestry, and food supplies, this aspect of the framework is particularly relevant for the core theme of this report.

Other obligations and mechanisms discussed at the COP relate to adaptation measures rather than mitigation measures. While mitigating climate change has often received priority in climate change discussions, the awareness has grown that climate change already affects some populations' lives (including livelihoods) and is expected to have even more devastating effects in the future. Consequently, the UNFCCC encourages states to anticipate these impacts, and the COP has taken several initiatives to help (the particularly poor and vulnerable) countries adapt. Most notably, the COP adopted the Nairobi Work Program to assist states, in particular developing countries, "to improve their understanding and assessment of impacts, vulnerability and adaptation to climate change; and make informed decisions on practical adaptation actions and measures to respond to climate change on a sound scientific, technical and socioeconomic basis, taking into account current and future climate change and variability."⁵³ Under the auspices of the SBSTA, it serves as a multistakeholder platform to gather information on vulnerability to climate change impacts, and to design adaptation programs to address these vulnerabilities.

LDCs are particularly vulnerable to adverse climate change effects and their adaptation schemes require special support from the international community. The COP has recognized this by setting up the Least Developed Countries Program and creating the Least Developed Countries Expert Group, whose most important task is to help LDCs draft their National Adaptation Program of Action (NAPA). The NAPA process helps poor countries "identify priority activities that respond to their urgent and immediate needs with regard to adaptation to climate change."

However, adapting to climate change effects often requires considerable financial investments. Researching the impacts on the population, designing solutions for it, and then actually implementing the solutions can indeed prove

53 UNFCCC, *The Nairobi Work Program: The Second Phase* (2008), available at <http://unfccc.int/files/adaptation/application/pdf/nwpbrochurenov2008.pdf>

very costly. Therefore, the COP has set up two special funds under the UNFCCC to finance the NAPAs and other adaptation efforts: the Special Climate Change Fund and the Least Developed Countries Fund. Managed by the Global Environmental Facility (GEF), both funds are based on voluntary contributions from UNFCCC member states.

A final key aspect of the UNFCCC is the development and transfer of innovative mitigation and adaptation technology. Faced with new climate conditions, new solutions are indeed needed to both mitigate and adapt to the effects of climate change. These should not only benefit those who can afford them – which are often the same parties as those who have historically contributed most to climate change – but also those who are most vulnerable. To that end, the COP set up the Expert Group on Technology Transfer, which has a mandate to advance “the development, deployment, adoption, diffusion and transfer of environmentally sound technologies to developing countries, taking into consideration differences in accessing and applying technologies for mitigation and adaptation.” In relation to protecting food supplies, such technologies could, for instance, include new irrigation techniques or new seed varieties to better cope with increasing droughts.⁵⁴

While the UNFCCC presents an increasingly complex institutional system on its own, it is not the only relevant legal milestone of the climate change regime. The arguably most prominent output of the COP discussions was the Kyoto Protocol, adopted in 1997 and entered into force in 2005. Contrary to the UNFCCC, which *encourages* states to adopt mitigation and adaptation measures, the Kyoto Protocol sets *binding* obligations on ratifying member states – now totaling 187 countries.⁵⁵ To avoid duplication of institutions, however, the institutions of the UNFCCC generally serve simultaneously as those of the Kyoto Protocol. Hence, the UNFCCC’s COP also constitutes the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP),⁵⁶ and the UNFCCC’s Secretariat⁵⁷ and Subsidiary Bodies (SBSTA and SBI)⁵⁸ also serve as institutions for the effective implementation of the Protocol.

A central aspect of the Kyoto Protocol is the binding limit on emissions for Annex I countries throughout the first commitment period, 2008–2012. In addition, it obliges these states to provide specific information on emissions and measures to reduce them. Once these states provide such information, the Kyoto Protocol allows them to use flexible mechanisms to reach their emission standards. These mechanisms are: (1) the international emissions trading system (Article 17), (2) the joint implementation mechanism (Article 6), and (3) the Clean

54 UNFCCC, “Application of Environmentally Sound Technologies for Adaptation to Climate Change,” technical paper (2006), pp. 82–4, FCCC/TP/2006/2.

55 Kyoto Protocol’s Status of Ratification as of July 8, 2009, available at http://unfccc.int/files/kyoto_protocol/status_of_ratification/application/pdf/kp_ratification_20090708.pdf

56 Article 13 Kyoto Protocol.

57 Article 14 Kyoto Protocol.

58 Article 15 Kyoto Protocol.

Timeline / Overview of Major COP Decisions

New York and Rio de Janeiro 1992 – Member States of the United Nations adopted the Framework Convention on Climate Change (UNFCCC) as an overall framework for intergovernmental efforts to tackle the challenge posed by climate change. Under the Convention, governments (1) share information on GHG emissions and national policies, (2) launch strategies for addressing GHG emissions, and (3) cooperate in preparing for adaptation to climate change effects, including the provision of financial and technological support to developing countries.

COP-3, Kyoto Protocol, 1997 – The Kyoto Protocol imposes legally binding GHG emission targets for developed (Annex I) parties, to be reached by the period 2008–2012. Rules for emissions trading and methodological work on forest sinks remain on the international negotiations agenda.

COP-6, The Hague and Bonn, 2000 – The Bonn Agreements are concluded, including decisions on capacity-building for developing countries and countries with economies in transition. Other issues such as mechanisms relating to land-use change and forestry (LULUCF) and compliance remained outstanding.

COP-11 – Nairobi Work Program, 2006 – The Nairobi work programme on impacts, vulnerability and adaptation to climate change was adopted with the “objective is to assist all Parties, in particular developing countries, including the least developed countries and small island developing States to [1] improve their understanding and assessment of impacts, vulnerability and adaptation to climate change; [and 2] make informed decisions on practical adaptation actions and measures to respond to climate change”.

COP-12 – Bali Plan of Action, 2007 – The Bali Plan of Action and Roadmap prepare the negotiations for the successor to the Kyoto Protocol, an agreement that should be built on several pillars: (1) a shared vision on long-term cooperation to reach the objective of the UNFCCC, (2) enhanced mitigation, (3) enhanced adaptation, (4) enhanced technology development and transfer and (5) enhanced provision of financial resources.

COP-15 – Copenhagen, December 2009 – The COP will try to reach a consensus on proposals for a protocol to the UNFCCC and an amendment to the Kyoto Protocol, which should fix binding climate change obligations for the post-2012 commitment period.

For more information on these and other decisions, see <http://www.unfccc.org>

Development Mechanism (CDM) (Article 12). For instance, under the CDM, states can receive additional emission credits if they help to implement schemes to combat climate change in developing countries.

While these flexible mechanisms have a role of stimulating mitigation measures, the Kyoto Protocol also provides an original mechanism under the CDM to gather substantial funding for adaptation measures. Contrary to the voluntary contributions to the other funds under the UNFCCC, the Adaptation Fund under the Kyoto Protocol will *automatically* receive a share of the proceeds from investments in CDM projects to finance adaptation plans in developing countries.

A final innovation of the Kyoto Protocol is the Compliance Committee, which consists of two bodies: the Facilitative Branch and the Enforcement Branch.⁵⁹ The Facilitative Branch aims to prevent state parties' noncompliance before it occurs, and the Enforcement Branch assesses Annex I-state parties' compliance with respect to reporting and emission-reduction binding commitments.⁶⁰

The next phase in climate change negotiations is guided by the Bali Roadmap, adopted at the COP-13 in 2007. It paves the way to a follow-up treaty to the Kyoto Protocol, expected to be conclude at the COP-15 in Copenhagen in December 2009. So far, the binding provisions of the Kyoto Protocol have a major focus on mitigation rather than adaptation aspects, even though at present the latter are arguably most relevant to protect vulnerable populations against climate change harm. The Bali Action Plan tries to enhance the implementation of the Convention, setting the following four pillars for a long-term climate change strategy: (1) a long-term global goal for emission reductions; (2) measurable, reportable, and verifiable mitigation commitments; (3) efforts to transfer resources for developing countries to effectively adapt; and (4) technology transfer to developing countries.

2.3 Objectives and Principles of the Climate Change Framework

The UNFCCC spells out both the objectives and principles of the current climate change framework. At this macro-objective level, the overlapping spaces between the international climate change regime and human rights become evident. Both regimes, at different levels, premise upon preserving the dignity and welfare of the human for present and future generations. Human rights do so by attaching normative constraints on power relations, thereby ensuring accountability and empowerment, and subsequently developing legal and other constant and continuing duties to improve the human condition. Climate change policy and law look to developing sustainable methods for combating the radical anthropo-

59 American Bar Association, "Section of Environment, Energy, and Resources," in ed. M. Gerrard, *Global Climate Change and U.S. Law 51* (2008) [hereafter ABA, *Global Climate Change*].

60 Ibid.

genic-derived environmental harms (real or anticipated) that negatively affect human welfare.

In the process of transferring these macro-objectives into practically-grounded measures, however, the overarching objectives of climate change law and policy often get eclipsed by the complex technicalities necessary for tackling climate change adaptation and mitigation. The purpose, therefore, of this section is to highlight the commonalities and compatibilities of both regimes in order to justify an integrated approach, particularly in the protection of the human right to food. The preservation of human dignity and welfare requires doing no harm to the human environment; it requires managing precious natural resources to ensure adequate access for present and future generations; and it also means setting up institutional structures to guarantee accountability for decision-making, to ensure that these same overarching principles of human rights and climate change are transparent, enforceable, and empowering.

2.3.1 Ultimate Objective: The Prevention of Dangerous Interference with the Climate System

The ultimate objective of the Convention is the “stabilization of GHG concentrations in the atmosphere at a level that would prevent dangerous interference with the climate system.”⁶¹ Article 1 of the Convention defines “adverse effects of climate change” as “changes in the physical environment or biota resulting from climate change which have significant deleterious effects ... on human health and welfare,” such as the injurious effects of climate change on human rights.⁶² Based on this definition, the adverse effects on human rights is one of the key elements taken into consideration to determine if there has been a “dangerous interference” with the climate system. Therefore, the ultimate objective of the Convention includes the purpose to take into consideration and prevent the adverse impacts that climate change has on human rights such as the right to food. In a Policy Briefing for climate change talks in Bonn, the Food and Agriculture Organization (FAO) reminded UNFCCC parties of this ultimate goal.

Reducing and removing emissions from the [agricultural] sector, while ensuring food security and enabling economic growth will need to form part of an urgent global effort to achieve the ultimate objective of the UN Framework Convention on Climate Change (UNFCCC), contained in Article 2.⁶³

From the technical perspective of the framework, scientific studies and policy considerations have converged to set a threshold for “dangerous interference with the climate system” of a maximum rise in the global average temperature of

⁶¹ Article 2 UNFCCC.

⁶² UNOHCHR *Climate Change Report 2009*.

⁶³ FAO, *Anchoring Agriculture within a Copenhagen Agreement – A Policy Briefing for UNFCCC Parties* (June 2009).

2°C above pre-industrial levels, in order to significantly reduce the adverse effects of climate change on ecosystems and human lives.⁶⁴ Article 2 of the Convention specifies that such a threshold “should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.” As it was explained by the IPCC:

Determining what constitutes “dangerous anthropogenic interference with the climate system” in relation to Article 2 of the UNFCCC involves value judgments. Science can support informed decisions on this issue, including by providing criteria for judging which vulnerabilities might be labeled “key.” {SYR 3.3, WGII 19.ES}

Key vulnerabilities may be associated with many climate-sensitive systems, including food supply⁶⁵

From a rights-based approach, where individuals are rights-holders, such thresholds could be determined based on human rights benchmarks.⁶⁶ For example, with regard to food supply, when anthropogenic climate change impacts impede the access to adequate food in a community, a “dangerous interference with the climate system” has occurred which could possibly amount to a violation of the human right to food.

2.3.2 The Principle of Common but Differentiated Responsibilities

As a key principle underlying the Convention’s ultimate objective, states acknowledged their “common but differentiated responsibilities” and capabilities with respect to climate change.⁶⁷ This principle establishes that countries have different responsibilities with respect to the anthropogenic causes of climate change, as well as a different level of vulnerability to its impacts. As a consequence, developed countries should take the lead in combating climate change and must give full consideration to the specific needs and special circumstances of developing countries, especially those that are particularly vulnerable to the adverse effects of climate change.⁶⁸ Additionally, developed countries must provide financial resources to assist particularly vulnerable developing countries with the costs of mitigation and adaptation measures to address climate change.⁶⁹

This principle is significantly relevant for effectively addressing climate change impacts on human rights, since the countries most vulnerable to climate change impacts are the most vulnerable to human rights violations caused by

⁶⁴ UNOHCHR *Climate Change Report 2009*, supra note 28.

⁶⁵ IPCC *Synthesis Report 2007*.

⁶⁶ ICHRP *Rough Guide 2008*.

⁶⁷ Article 3 of the UNFCCC.

⁶⁸ Ibid.

⁶⁹ Article 4.3 of the UNFCCC.

those impacts. The principle is an expression of climate justice, since it promotes the fair distribution of climate change burdens and, coupled with the “polluter pays principle,” links states’ responsibilities to their respective capabilities and capacities.⁷⁰

2.3.3 The Equity Principle

The UNFCCC requires state parties to protect the climate system for the benefit of present and future generations of humankind on the basis of “equity.” The concept of “equity” has been criticized as being difficult to define. Some argue that the insertion of “equity” under the climate change regime acknowledges in principle the validity of different justice claims, while postponing any decision on their relative merit.⁷¹ The equity of any action may be assessed from a number of generic approaches, such as parity, proportionality, priority, utilitarianism, and corrective and distributive justice.⁷² Social and environmental equity is linked to sustainability, since it pursues the fair distribution of social and environmental benefits and burdens.⁷³

While many conceptions conflict, the principle of harmonization of international law (see chapter 4) requires that equity be read in the light of other branches of international law such as human rights law, which is fundamentally based on justice principles such as equality in dignity and rights (Article 1, Universal Declaration of Human Rights), and on accountability for harmful behavior (corrective justice), and on a certain degree of cooperation to the benefit of human welfare (distributive justice). Equity could and even should be read in consistency with an integrated rights-based approach under the climate change framework.

2.3.4 The Precautionary Principle

Article 3 of the UNFCCC adopts the international environmental law’s “precautionary principle,” establishing that where there are threats of serious or irreversible damage, the lack of full scientific certainty should not be used as a reason for postponing precautionary measures.⁷⁴ Based on this principle, state parties should not require full scientific certainty in order to take actions to address climate change, and should not require complete scientific certainty in order to avoid the impacts that climate change has on human rights.

70 *Report on Guidelines for Climate Justice*, Working Paper of the Global Humanitarian Forum (GHF) Expert Group on Climate Justice (Feb. 2009).

71 For an analysis of different (conflicting) interpretations of the equity principle under the UNFCCC, see *ICHRP Rough Guide 2008*, chapter 5.

72 IPCC, *Development, Sustainability and Equity: Proceedings of the Second IPCC Expert Meeting on Des*, Havana, Cuba (Feb. 23–25, 2000), available at <http://www.ipcc.ch/pdf/supporting-material/des-2nd-ipcc-expert-meeting.pdf>

73 *Ibid.*

74 *Ibid.*

From a rights-based perspective, the precautionary principle is complementary to states' duties under the human rights framework. For example, even though it is often difficult to establish the precise adverse impacts that climate change has or will have on the human right to food, the human rights regime requires preventing human rights violations rather than curing them after the fact. Since a healthy environment is a condition for the realization of human rights, states have the duty to promote the rights based on the existing and future projections of climate change impacts, without requiring full scientific certainty or the existence of specific human rights violation. In line with the subsidiarity of reparation as opposed to prevention of human rights violation, the precautionary principle requires states to act preventively toward the respect, protection, and fulfillment of such rights.

2.3.5 The Do No Harm Principle

The UNFCCC reaffirms Principle 21 of the Stockholm Declaration, recalling that: “[s]tates have....the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.”⁷⁵ This principle is based on the “do no harm” principle of the Trail Smelter case,⁷⁶ in which an international ad-hoc court prohibited states from causing transboundary environmental harm to another state.⁷⁷ The Trail Smelter principles were further broadened with the Lac Lanoux case, which creates an

75 The UNFCCC reaffirms Principle 21 of the Stockholm Declaration, available at <http://unfccc.int/resource/docs/convkp/conveng.pdf>

76 This leading case on international transboundary environmental harm (1941) specifically addressed sulfur dioxide transboundary air pollution from Canada to the United States. The source of the sulfur dioxide emissions was a smelter located in British Columbia, just a few miles north of the US-Canada frontier. The air pollution traveled toward Washington State's territory, significantly affecting the apple growers' property within the state. The ad-hoc court established to decide the case held that “under the principles of international law, as well as of 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 therein, when the case is of serious consequence and the injury is established by clear and convincing evidence*” [emphasis added], D. Hunter, J. Salzman, and D. Zaelke, *International Environmental Law and Policy*, 3rd ed. (2007), pp. 543–4.

77 In order to sustain a state's liability under the rule, the injury must be of serious consequence, and it must be established by clear and convincing evidence. See M.L. Larsson, *The Law of Environmental Damages: Liability and Reparation* (1999), pp. 158–9.

obligation for states to *cooperate* to prevent transboundary harm.⁷⁸ Under the climate change framework and from a rights-based perspective, the do no harm principle requires state parties to ensure that activities within their jurisdictions do not cause dangerous transboundary interference with the climate system that could adversely affect the ecosystems and realization of human rights in other states. In the context of the right to food, it is in line with the first article common to both the IPCC and the ICESCR that “in no case may a people be deprived of its own means of subsistence.”

2.3.6 The Sustainable Development Principle

Article 3 of the UNFCCC also provides for the “sustainable development” principle, which requires the economic, social, and environmental systems of states to provide a healthy, productive, and meaningful life for present and future generations.⁷⁹ As it was explained by the IPCC: “Climate change could exacerbate climate-sensitive hurdles to sustainable development faced by developing countries. This will require integrated approaches to concurrently advance adaptation, mitigation and sustainable development.”⁸⁰

The respect of human rights is essential for achieving sustainable development and ensuring that such development benefits all.⁸¹ For example, states must respect the human right to food when adopting bioenergy policies that, if not properly designed, could compete with food production and the fundamental right of people to be free from hunger. Since the realization of human rights helps to provide a healthy, productive, and meaningful life of dignity for present and future generations, a rights-based approach must be integrated to the climate change framework in order to effectively comply with its sustainable development principle.

2.3.7 International Cooperation

Article 3 of the UNFCCC establishes that state parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all parties’ jurisdictions,

⁷⁸ Lac Lanoux, *France v. Spain*, XII Int’l Arb Awards 281 (1957), reprint 53 AJIL 156 (1959); M.L. Larsson, supra note 77, p. 161. For another case reaffirming the Trail Smelter’s “no harm” rule, see ICJ, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ 226, p. 29 (July 8, 1996) (recognizing that the “general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment”).

⁷⁹ A. Chandai, “Distributive Justice and Sustainability as a Viable Foundation for the Future Climate Regime,” *The Carbon and Climate Law Review* (2007).

⁸⁰ IPCC 4AR WG2, chap. 5 (2007).

⁸¹ UNOHCHR, Human Rights Resolution 2005/60, “Human Rights and the Environment as Part of Sustainable Development.”

particularly developing countries. This mandate is in line with human rights obligations themselves, which require states to cooperate at the international level and in function of the available resources to realize human rights, in particular economic and social rights like the right to adequate food.

With regard to international cooperation, the Convention requires states to cooperate in: (1) the development and transfer of technologies, practices, and processes to mitigate climate change in all sectors, including agriculture and forestry⁸²; (2) the preparation to adapt to climate change⁸³; (3) the full, open, and prompt exchange of scientific, technological, socioeconomic, and legal information⁸⁴; and (4) the education, training, and public awareness and participation on climate change issues, including that of nongovernmental organizations.⁸⁵ These commitments are essential for the protection of the human rights of the most vulnerable populations, since international cooperation provides them with the necessary economic, scientific, and technical tools to mitigate and adapt to climate change impacts, such as the impacts on the human right to food. International communication with human rights organizations and institutions is crucial to achieve an efficient international cooperation focused on human rights under the framework.

2.3.8 The UNFCCC and the Aarhus Convention

The principles above show that many of them are at least compatible with – if not fully translatable to – parallel human rights principles and obligations. The UNFCCC is designed to prevent adverse consequences of climate change on human welfare; it imposes duties on states to not do harm both within and beyond their borders; it obliges them to cooperate at the international level to further the fight against climate change effects, and to do so in a preventive and sustainable way.

In order to be fully compatible with a rights-based approach, however, the UNFCCC would not only guarantee that substantive human rights violations are avoided because of climate change, but also that those most likely to be affected by climate change as such, and policy measures taken to address climate change, would: 1) be granted an opportunity to access information about such potential impacts; 2) be allowed to participate in the decision-making process on how to address them; and 3) get a chance to hold accountable those who impinge on such procedural guarantees. These procedural elements of a rights-based approach, which allow for access to information, participation in policy-making, and accountability of decision-makers, currently seem to be lacking among the overarching principles of the UNFCCC.

⁸² Article 4(c) UNFCCC.

⁸³ Article 4(e) UNFCCC.

⁸⁴ Article 4(h) UNFCCC.

⁸⁵ Article 4(i) UNFCCC.

Example of Impact of Climate Change and Deforestation: Amazon

The Kamayurá tribe in the Amazon has depended for centuries on its staple food, fish, as a prime source of protein. Now, however, fish are in short supply. Deforestation and global climate change have made the entire Amazon region drier and hotter, killing off fish stocks that have so long supported the tribe. The IPCC has spoken about the increased risk of extinction for up to 30 percent of animals and plants worldwide if temperatures rise just 2°C. Anthropologists have pointed out another equally tragic extinction risk: the loss of the cultural traditions, arts, and languages of dozens of indigenous groups like the Kamayurá.

About 5,000 square miles of Amazon forest are being cut down annually, and water levels throughout the region continue to decline precipitously. The tribe has resorted to eating ants and monkeys in an attempt to find adequate nutrition and avoid mass starvation. Last year, for the first time in the tribe's history, the beach on the lake that abuts the village was not covered by water in the rainy season, preventing the tribe from catching turtles also relied upon for sustenance. Lack of rain has also disrupted the growing and harvesting of cassava, another dietary staple. They have few options left, as they live deep in the forest with little money or other capital and no means of transportation. Their only remaining option is to permanently relocate, which would also be difficult and unwieldy. The land surrounding tribes such as the Kamayurá is now occupied by an expanding population of other people, who have begun settling on what little free land remains in the area. In 2007, to make matters worse, thousands of acres of nearby forest caught fire and were destroyed. When asked about the ongoing food crisis facing the group, the tribe's senior shaman said that the only threat that he could remember rivaling the current climate change crisis was a measles pandemic that killed more than 90% of the Kamayurá in 1954. The tribe's ability to survive the current crisis is tenuous at best, particularly without the attention or assistance of outside groups.

Source: Elisabeth Rosenthal, "An Amazon Culture Withers as Food Dries Up", *New York Times* [Jul. 24, 2009]

This is all the more remarkable in that general international environmental law already recognizes such entitlements for those who will be most affected by environmental policies. The clearest recognition of procedural rights in relation to the environment is the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (the

Aarhus Convention).⁸⁶ The Convention has been most widely ratified in regions that have been relatively reluctant to recognize a substantive right to a clean environment, such as Europe (the European Communities are member to the Convention) and Central Asia.⁸⁷

Under the Aarhus Convention, states have a duty to inform the population about environmental issues and concerns, enable it to participate in environmental discussions and decision-making that is likely to impact it, and provide a remedy when information or participation was denied. While the Aarhus Convention does not explicitly provide for procedural rights in the context of climate change so far, its provisions are widely formulated and could be extended to the field of climate change. “Environmental harm” would in many instances apply to the effects of climate change, and “affected populations” that are entitled to information and participation do not seem restricted to a country’s own nationals.

The UNFCCC already includes soft law obligations to raise awareness and spread information about climate change effects and enhance participation in decision-making processes (see below, section 2.4.2). However, it is not a guiding principle throughout the entire UNFCCC regime and, consequently, does not guide institutional bodies set up under that framework. Recently, a coalition of over 1,000 multistakeholders concluded a conference on the post-Kyoto negotiations stating that “[t]he [December 2009 Climate Conference in Copenhagen] should include the commitments of the Aarhus Convention and include incentives for empowering participation of the citizens.”⁸⁸ Such procedural entitlements would allow those most vulnerable to climate change and lacking the means to adapt to play a more central role in negotiations and in programs designed to avoid climate change harm.

2.3.9 The Role of the COP to Confirm the Compatibility between Climate Change and Human Rights Principles

The COP is the supreme body constituted by all the state parties of the Convention.⁸⁹ It represents the institution where consensus is achieved. Therefore, the COP is a main target to achieve consensus to explicitly recognize the compatibility between the climate change framework’s objectives and principles, and human rights obligations. Currently, the negotiation text for the follow-up treaty to the Kyoto Protocol contains some human rights language.

In addition, the COP has the authority to establish subsidiary bodies, or working or expert groups necessary for the effective implementation of the

⁸⁶ Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters.

⁸⁷ For the status of ratifications, see <http://www.unece.org/env/pp/ctreaty.htm>. Noteworthy is that the Aarhus Convention itself recognized the right to a healthy environment, but as an objective rather than an enforceable right (Art. 1).

⁸⁸ Beyond Kyoto Conference.

⁸⁹ Article 7 UNFCCC.

Convention. Since the ultimate objective of the Convention includes the purpose to prevent the adverse impacts of climate change, including on human rights, experts have proposed the creation of a new subsidiary body, or working or expert group focused on the linkage between climate change and human rights. The main function of the proposed body or group has been described as follows:

Depending on its mandate, a subsidiary body or expert group for CC & HRs could inject a rights-based approach to every aspect of the UNFCCC. Whether the issue concerns mitigation, adaptation, technology transfer, financial mechanisms, or other aspects involved in the implementation of the UNFCCC, this subsidiary body could have the mandate to address any and all these issues from a human rights perspective.⁹⁰

Therefore, this report supports the creation of a new institution by the COP, recognizing that it is a “long-shot” recommendation, since a state party’s consent to this type of action may prove hard to achieve.⁹¹ Nonetheless, it would be one of the most efficient ways to recognize the human rights dimension of climate change and of adaptation and mitigation policies.

2.4 Climate Change Research and Information

Detailed information is needed to identify the causes and effects of climate change; collecting it is a first step in programming adequate mitigation and adaptation schemes. While several public and private institutions collect relevant information, this section focuses on two major sources: the IPCC reports and the National Communications under the UNFCCC and the Kyoto Protocol.

2.4.1 The Intergovernmental Panel on Climate Change: Climate Change Science with a Growing Human Focus

The IPCC’s reports are a major source of information for the negotiations and decision-making processes under the climate change framework. These reports represent the scientific backbone for climate change agreements and programs. The mandate of the IPCC is to

assess on a comprehensive, objective, open, and transparent basis the scientific, technical and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation. IPCC reports should be neutral with respect to policy, although they may need to deal objec-

⁹⁰ Center for International Environmental Law and Friedrich Ebert Stiftung, *Human Rights and Climate Change: Practical Steps for Implementation* (Feb. 2009) [hereafter *CIEL Practical Steps 2009*].

⁹¹ *Ibid.*

tively with scientific, technical and socioeconomic factors relevant to the application of particular policies.⁹²

Even though IPCC literature or information does not expressly recognize human rights, the IPCC Working Group 2 does provide a comprehensive analysis on how climate change affects natural and human systems, taking into account the relationship between climate change and sustainable development.⁹³ For example, as part of the IPCC Fourth Assessment Report: Climate Change 2007 (IPCC 4AR), the Working Group on “Impacts, Adaption and Vulnerabilities” included a chapter on the impacts of climate change on food security.⁹⁴ As part of its findings, the Working Group explained the following impacts:

*All four dimensions of food security, namely food availability (i.e., production and trade), stability of food supplies, access to food, and food utilization will likely be affected by climate change. Importantly, food security will depend not only on climate and socioeconomic impacts, but also, and critically so, on changes to trade flows, stocks, and food-aid policy. Climate change impacts on food production (food availability) will be mixed and vary regionally. For instance, a reduction in the production potential of tropical developing countries, many of which have poor land and water resources, and are already faced with serious food insecurity, may add to the burden of these countries.*⁹⁵

The IPCC’s focus on food security has increased significantly since its first report. For example, its previous report – IPCC’s Third Assessment Report (3AR) – did not contain a chapter on food and fiber.⁹⁶ The increasing focus on climate change’s human consequences and the most vulnerable populations, such as developing countries that are faced with serious food insecurity, are key elements to a rights-based approach under the framework.

Still, there are a lot of technical, social, and monetary barriers that do not allow the expert community to obtain the necessary information on those populations.⁹⁷ Usually, the most vulnerable communities do not have the technical and monetary means to effectively assess and communicate their particular situations with respect to food security. In addition, social factors such as lack of political will and the existing marginalization of these communities from the decision-making process create significant hurdles to evaluate

92 Principles Governing IPCC Work, available at <http://www.ipcc.ch/pdf/ipcc-principles/ipcc-principles.pdf>

93 The IPCC Working Group 2, available at <http://www.ipcc.ch/about/working-group2.htm>.

94 IPCC 4AR WG2, chap. 5 (2007), available at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-chapter5.pdf>

95 Ibid.

96 *Brot für die Welt Report 2008*, p. 25.

97 Ibid., pp. 106–8.

food security issues.⁹⁸ Finally, the fact that governments in developing countries may lack the institutional structures necessary to promote the realization of human rights generates one of the main obstacles in the effective assessment of human rights issues within their jurisdictions. Therefore, international cooperation commitments under the UNFCCC – in particular in the field of exchange of scientific, technological, and socioeconomical information – play a major role in overcoming these barriers.⁹⁹

Given the significant role of the IPCC Working Group 2 in assessing climate change impacts on humans, it is necessary to ensure that rights-holders, especially the most vulnerable, are taken into consideration by the Working Group. In the context of the human right to food, “[t]he picture of threats clears when the hungry and malnourished of today and those currently living at the brink of hunger are placed directly in the focus of the analysis.”¹⁰⁰

2.4.2 Commitments and Mechanisms Related to Information Collection under the UNFCCC

With respect to the education, training, and public awareness, the UNFCCC specifies that states should foster awareness about climate change at the national level, namely through: (1) the development and implementation of educational and public awareness programs on climate change; (2) public access to information on climate change and its effects; (3) public participation in addressing climate change and developing adequate responses; and (4) training of scientific, technical, and managerial personnel. These procedural guarantees have the potential of empowering the most vulnerable populations by providing access to information and public participation in the climate change planning- and decision-making processes. The key element for success of such guarantees is its effective implementation at the national level. Beyond national communications on these and other issues (described below), the UNFCCC unfortunately has no positive or negative incentives for states to effectively deploy these empowering tools in practice.

National Communications under the UNFCCC

Another important commitment under the framework is to communicate information related to the states’ implementation of the framework. States comply through the “national communications” system. Since 1996, Annex I-developed countries’ parties have to submit national communications and an annual inventory of their GHG emissions by January 2010 following the UNFCCC “Revised Reporting Guidelines.”¹⁰¹ In general, the guidelines require the following:

⁹⁸ Ibid., p. 105.

⁹⁹ Article 4 UNFCCC.

¹⁰⁰ *Brot für die Welt Report 2008*.

¹⁰¹ UNFCCC, *Review of the Implementation of Commitments and of Other Provisions of the Convention*, UNFCCC guidelines on reporting and review, FCCC/CP/1999/7 (Feb. 2000).

- Information about emissions and mitigation measures: state parties must provide a description of their national circumstances relevant to GHG emissions and removals, and a summary of their GHG inventory information. This aims to generate the necessary data to assess the anthropogenic interference with the climate system and its impacts on humankind, and to determine who contributes most to climate change. In addition, states must state how they limit their anthropogenic GHG emissions under Article 4.2 (a) and (b) in several sectors such as agriculture and forestry. In addition, the guidelines provide that strategies for sustainable development or other relevant policy objectives may also be covered. States must also present projections and the total effect of policies and measures in order to give an indication of future trends in GHG emissions and removals, based on current national circumstances and implemented and adopted policies and measures.
- Information about awareness-raising: Annex I parties shall communicate information on their actions related to education, training, and public awareness, which includes the involvement of the public and NGOs in climate change planning (see above).
- Information about cooperation: states shall provide detailed information on the financial resources and transfer of technology supplied by developed state parties for the purpose of assisting developing countries' parties that are particularly vulnerable to the adverse effects of climate change. This requirement assesses Annex I-state parties' fulfillment of their international cooperation duty and "common but differentiated responsibility." States must report financial contributions to the Global Environmental Facility (GEF) and other multilateral institutions and programs such as the World Bank and the International Finance Corporation.
- Information about vulnerability and adaptation: finally, states' national communications must include vulnerability assessments, climate change impacts, and adaptation measures. This is the key section in which to integrate a human and social perspective within the report. Ironically, the guidelines only provide a short paragraph for the substantive content of this section. It explains that information on the expected impacts of climate change and actions taken to adapt must be included. States may refer to integrated plans for coastal management, water resources, and agriculture, and report on specific results on vulnerability assessment and adaptation. The guidelines do not include an express requirement to assess food vulnerability and adaptation measures.

With regard to the vulnerability assessment, the Guidelines encourage state parties to use the IPCC Technical Guidelines for Assessing Climate Change Impacts and

Adaptations¹⁰² and the UNEP Handbook on Methods for Climate Change Impact Assessment and Adaptation Strategies. These guidelines and handbooks were the basis for the “Compendium of Methods and Tools to Evaluate Impacts of, and Vulnerability and Adaptation to, Climate Change”¹⁰³ launched during COP-10 in Buenos Aires. The Compendium is a reference document to identify available frameworks and tools for assessing vulnerability and adaptation; it does not describe how to implement each tool, but rather, surveys the possible tools that can be applied to a broad spectrum of situations. Consequently, the COP adopted a five-year program of work, named the Nairobi Work Program,¹⁰⁴ in order to assist all state parties, in particular developing countries, “to improve their understanding and assessment of impacts, vulnerability and adaptation to climate change; and make informed decisions on practical adaptation actions and measures to respond to climate change on a sound scientific, technical and socioeconomic basis, taking into account current and future climate change and variability.”¹⁰⁵ One of the main goals of the program is to enhance the integration of adaptation into sustainable development plans.

Currently the program is at its second phase under the direction of the SBSTA, and its development will continue at COP-15 in December 2009 in Copenhagen. The program recognizes that its goals depend on a multistakeholder approach, encouraging broad participation in its development and future phases. Human rights experts and organizations, which have been largely absent from the Nairobi Work Program until now, must seek this opportunity to effectively integrate a rights-based approach in the vulnerability assessments performed under the framework, particularly within the states’ national communications.

As provided by the Convention, Non-Annex I developing-countries’ parties may propose projects to obtain financial assistance for the preparation of their national communications. In accordance to this provision, the COP adopted the “Guidelines for the preparation of national communications from Parties not

102 Description of the IPCC *Technical Guidelines for Assessing Climate Change Impacts and Adaptations*: A set of technical guidelines for the scientist that does not seek to prescribe a single preferred method but rather a range of methods, some of which may be more suitable than others to particular tasks, but which yield comparable results across regions and sectors. The guidelines aid users in assessing the impacts of potential climate change and in evaluating appropriate adaptations. The Guidelines outline a seven-step process: (1) definition of the problem, (2) selection of the methods, (3) testing of the methods, (4) selection of the scenarios, (5) assessment of biophysical and socioeconomic impacts, (6) assessment of autonomous adjustments, and (7) evaluation of adaptation strategies. A range of methods is identified at each step. Available at http://unfccc.int/files/adaptation/methodologies_for/vulnerability_and_adaptation/application/pdf/ipcc_technical_guidelines_for_assessing_climate_change_impacts_and_adaptations.pdf

103 UNFCCC, *Compendium of Methods and Tools to Evaluate Impacts of, and Vulnerability and Adaptation to, Climate Change*, available at http://unfccc.int/files/adaptation/methodologies_for/vulnerability_and_adaptation/application/pdf/200502_compendium_methods_tools_2005.pdf

104 UNFCCC, *The Nairobi Work Program*.

105 UNFCCC, *The Nairobi Work Program: The Second Phase*.

included in Annex I to the Convention to the Revised Reporting Guidelines,”¹⁰⁶ and created the Consultative Group of Experts on National Communications from Non-Annex I parties to examine national communications and provide technical advice and training on the use of guidelines for the preparation of national communications by Non-Annex I parties. In particular, the guidelines encourage Non-Annex I parties to “provide information on their vulnerability to the impacts of, and their adaptation to, climate change in key vulnerable areas.”¹⁰⁷

With regard to this encouragement, the user’s manual for the guidelines¹⁰⁸ created by the consultative group specifies “food security” as a key vulnerable area that may be discussed in their national communications. This manual provides a more comprehensive approach with regard to the human consequences of climate change than the Annex I parties’ revised Guidelines, but as the latter one, it does not include an express requirement to assess human right to food or food security and adaptation measures. To give but one example, Nigeria’s national communication submitted in 2003¹⁰⁹ discusses food production issues with regard to agriculture, livestock, and fisheries, but it does not include a comprehensive analysis on food security and vulnerability. Specifically, it does not assess food availability, accessibility or adequacy issues caused by climate change’s impacts, policies, and measures in its jurisdiction. As with the IPCC Working Group 2, the Non-Annex I parties’ national communications confront a lot of technical, social, and monetary barriers that will have to be overcome through effective international and national cooperation efforts.

The national communications are transmitted to the Conference of the Parties and to the concerned subsidiary bodies. Under coordination of the Secretariat, an international team of experts conducts an “in-depth” review on the basis of desk- and field studies in order to provide a comprehensive, technical assessment of a state party’s implementation of its commitments.

The national communications system is not only essential to evaluate the implementation of the Convention, but also to generate the necessary information from each state party in order to move forward with the Convention’s objective. The communications promote international cooperation within the framework, since each state party communicates its efforts to combat climate change and vulnerabilities to its impacts based on its existing and projected national circumstances. Therefore, it is important for these communications to provide

106 UNFCCC, *Guidelines for the Preparation of National Communications from Parties not Included in Annex I to the Convention*, Decision 17/CP.8 (2002), available at <http://unfccc.int/resource/docs/cop8/07a02.pdf#page=2>

107 Ibid.

108 UNFCCC, *Reporting on Climate Change: User Manual for the Guidelines on National Communications from Non-Annex I Parties*, available at http://unfccc.int/files/essential_background/application/pdf/userman_nc.pdf

109 Nigeria’s First National Communication under the UNFCCC (2003), available at <http://unfccc.int/resource/docs/natc/niganc1.pdf>

an objective and complete discussion of each state's vulnerability to human rights violations caused by climate change's impacts, policies, and measures.

Information Commitments under the Kyoto Protocol

Articles 5 and 7 of the Kyoto Protocol establish monitoring and reporting obligations. In particular, Annex I parties have to create a national system for calculating the state's GHG emissions, develop a national registry for tracking emission credits, and submit an annual emissions inventory. In addition, Article 7 requires Annex I parties to supplement its national communications, submitted under Article 12 of the UNFCCC, in order to demonstrate compliance with its commitments under the Protocol.¹¹⁰ Therefore, this commitment supplements the important role of national communications of generating the necessary information from each state party in order to move forward with the Convention's objective.

2.5 Combating Climate Change through Mitigation Measures

As explained earlier in this section, mitigation measures are both urgent to avoid further climate change harm and at times problematic in their own right when they do not assess adverse impacts on present populations. This section therefore revolves around two central questions: (1) Are current mitigation measures sufficient to avoid climate change impacts on the human right to food? (2) Are there guarantees to ensure that such measures do not negatively affect the right?

2.5.1 Discretion in Choice of Mitigation Policies

The UNFCCC requires states to adopt national programs and policies to mitigate climate change,¹¹¹ which intrinsically helps to avoid climate change impacts on the human right to food. Based on the "common but differentiated responsibilities" principle, only developed countries have the legal obligation to adopt national policies to mitigate climate change by limiting its anthropogenic GHG emissions. This commitment was soft law until the Kyoto Protocol of 1997 imposed binding emission limits for its Annex I developed-countries parties. The emissions limit commitments or "assigned amounts" for the first commitment period (2008–2012) were calculated with reference to each party's 1990 emission levels.¹¹² Kyoto first commitment period targets are at a scale far from avoiding the "dangerous" climate change threshold of 2°C above pre-industrial levels.¹¹³ The avoidance of this threshold is urgent, especially to avoid unpredictable impacts. Therefore, there is a need to achieve consensus for more stringent targets. Based

¹¹⁰ The UNFCCC Guidelines for the preparation of the information required under Article 5 of the Kyoto Protocol, including on reporting of supplementary information under Article 7, provide guidance for Annex I parties on the structure and content of the national communications.

¹¹¹ Article 4(b) of the UNFCCC.

¹¹² *Ibid.*

¹¹³ *Brot für die Welt Report 2008*, p. 31.

on the state consent requirement to achieve a better commitment under Kyoto, the challenge now is to reconcile the global emission-reduction efforts with the legitimate development aspirations of developing countries, which affects the political will of state parties to mitigate.¹¹⁴

Under Kyoto, parties have full discretion in developing individual national measures and policies to meet their binding emission limits, but are restricted by the ultimate objective and principles of the UNFCCC. This means that it should be consistent with the objective to avoid dangerous types of interference with the climate system that would have adverse human consequences – and not cause harm while fighting climate change. Indeed, the long-term benefits of reducing emissions should not be at the expense of – or at least be balanced with – the short-term protection of human rights in areas where emissions can be limited. For example, policies that promote the use of agrofuels as a substitute for fossil fuels could have negative impacts on the human right to food.

Food vs. Renewable Energy: Worst-case Scenario in Swaziland

Swaziland's struggles with droughts over the last decade have created a unique series of problems for the country and its many small farmers. Record low rainfall and reduced river flow have meant that more than 80 percent of all crops fail to grow each year, leaving the general population hungry and impoverished, without any means of recourse. Today, more than 22 percent of the population is severely undernourished. In a country of just under one million people, 15 percent of the population survives on one meal a day, or less.

In response to the droughts, small farmers have begun growing cash crops – such as cotton, which is more drought-resistant than common food crops – in the hopes of being able to provide for themselves and their families by selling these crops on the market. At the same time, the Swazi government has increasingly leased out what little viable agricultural land remains to several large biofuel companies for them to grow ethanol and other related crops. The result of both the increased reliance of small, local farmers on non-food crops – stemming from their inability to afford the fertilizers needed to grow traditional crops like maize – as well as the increased presence of an agribusiness sector that exports all of its crops, means that Swaziland's already hungry, impoverished population is becoming continually worse off. At present, 69 percent of the population requires food aid, and that number is growing every year.

Sources: <http://desertification.wordpress.com/2007/03/30/drought-in-swaziland-african-agriculture/>; <http://www.wfp.org/countries/swaziland>; <http://www.reliefweb.int/rw/rwb.nsf/AllDocsByUNID/98899e54c9981e8685256e0d005fbb2f>

¹¹⁴ Ibid.

Best Practices? Bio-energy and Food Security in Brazil

Brazil's poor farmers benefit from biofuel production through the Social Fuel Seal (*Selo Combustível Social*) program. Biodiesel producers who buy feedstocks from small family farms in poor regions pay less federal income tax and can access finance from the Brazilian Development Bank. By the end of 2007, 400,000 small farmers joined the scheme. The farmers are organized into cooperatives and receive training from extension workers. During the national petroleum agency's auction in December 2007, 99 percent of the fuel sold came from companies with the Social Fuel Seal.

Source: FAO, *Climate, Energy and Food* [2008]

Therefore, in order to ensure that mitigation measures do not negatively affect human rights such as the right to food, the framework encourages such measures to be based on an objective and effective human rights climate-change impact-assessment. This type of assessment is consistent with the framework's objective, principles, and commitments. The UNFCCC itself stipulates that states shall employ appropriate methods, such as impact assessments, to minimize the adverse impacts of such policies on the economy, public health, and the environment.¹¹⁵ Moreover, states shall take climate change into account in all their relevant social, economic, and environmental policies or actions.¹¹⁶ In that sense, the framework ensures that national mitigation strategies will consider its economic, social, and environmental impacts while other national policies take into consideration climate change, promoting an integrated approach between climate change issues and other social sectors.

This section now turns to specific mitigation mechanisms under the framework and the human rights issues they may raise.

2.5.2 Flexible Mechanisms to Achieve Mitigation Goals

In order to help countries meet their binding emission limits under Kyoto, the Protocol created three important and innovative flexible mechanisms: (1) the international emissions trading system (Article 17), (2) the joint implementation mechanism (Article 6), and (3) the Clean Development Mechanism (Article 12). In order to be eligible to participate under these mechanisms, state parties must comply with the emission monitoring and reporting obligations set by Articles 5 and 7 of the Protocol. The following sections discuss the two flexible mechanisms most relevant to the protection of human rights.

¹¹⁵ Article 4(f) of the UNFCCC.

¹¹⁶ *Ibid.*

International Emission Trading: The Cap-and-Trade System

Article 17 allows state parties to establish an international emissions trading system in order to comply with their emission goals in the most cost-effective manner. The most common trading mechanism is the so-called cap-and-trade system, where countries set a common cap of emissions and can trade emission credits so that emissions occur in sectors where they are economically most efficient. This mechanism has been criticized as having possible national environmental justice consequences, such as the lack of public participation within the system and the risk of an unjust distribution of the GHG emission-reduction benefits and pollution burdens.¹¹⁷ In particular when the granting of initial credits is based on the history of emissions (as happened under the European trading system) rather than on a bidding process to acquire initial credits, actors that are heavily polluting at that time are assigned with more credits and, therefore, compensated for their negative impact on climate change. Moreover, when credits are assigned either by historic emissions or through a bidding process, the credit market does not guarantee that pollution will happen in regions where human beings will most likely be protected against environmental harm. For instance, it could be that a factory saves costs by settling in a poor neighborhood and invests in buying emission quotas, polluting an area where people have little means to move elsewhere to avoid direct environmental harm caused by GHG's co-pollutants, or even to mobilize to protest against new emissions in their neighborhoods. This is better known as a "hot-spot" environmental justice issue.¹¹⁸

Beyond the domestic unbalances that a cap-and-trade system may produce, there are also risks of international and transboundary negative effects. A major problem is that the cap only applies to countries that accept it, so that transnational corporations may be tempted to relocate in regions, mainly developing countries, where they have no such restrictions. This type of action pushes developing countries to a non-climate-friendly economy, which in the long run makes it harder for those countries to commit to a GHG emissions limit.

In addition, the cap-and-trade system raises other climate justice issues between developed and developing countries. As the International Human Rights Policy Council explains in its "Climate Change and Human Rights Rough Guide":

Market mechanisms ... discriminate against those who cannot afford to pay, which in this case means the very same countries that have not historically used the carbon dump and have the most need of its benefits ... A core question raised by the emissions market, then, is whether it will put carbon-based development out of the reach of certain countries, without making any alternative readily available ... Without robust and detailed

¹¹⁷ A. Kaswan, "Environmental Justice and Cap-and-Trade," *The Environmental Forum* (2008).

¹¹⁸ *Ibid.*

policies of technology transfer and adaptation, their [LDCs] development options will steadily shrink, with deleterious effect on basic rights. From a rights perspective, therefore, it will be important to assess the extent to which potential impacts on rights are taken into account when trading regimes are implemented.

The decision to manage a common good, such as air, with private market mechanisms seems intrinsically incompatible, since the benefits of emitting GHG into the atmosphere are privatized, whereas the external costs are global. Who can assure that the price that countries and private parties pay to emit GHG into the atmosphere is enough to redress the damage caused to a common good that is necessary for human life and subsistence? Therefore, if not well designed, the cap-and-trade system could be contrary to the “common but differentiated responsibilities” principle between state parties under the framework, and even cause national environmental justice conflicts that attempt against the human rights of individuals within the jurisdiction of state parties.

The Clean Development Mechanism

Under the CDM structure, Annex I governments, and companies authorized by them, can purchase Certified Emission Reductions (CERs) generated by emission-reduction development projects in Non-Annex I countries.¹¹⁹ Because Non-Annex I countries do not have emission-reduction obligations, CDM has been the primary mechanism for involvement of developing countries in mitigation schemes during the Kyoto Protocol’s first commitment period.¹²⁰

Under the CDM a project is eligible if it helps to achieve sustainable development in the host country and reaches GHG emission reductions that are “additional” to any reduction that would occur in the absence of the proposed project.¹²¹ For example, CDM projects in the clean energy sector, particularly fuel (clean cooking fuel) and electricity (clean water) projects, are likely to satisfy the emission-reduction and sustainable development requirements for CDM designation.¹²²

A specific example of a right to food project that could receive CDM credits is a Japanese effort to provide clean cooking fuel in Rwanda.¹²³ Many Rwandans live without electricity and cook meals with firewood or methane from cattle feces and urine.¹²⁴ Introduction of technology that extracts methane from cattle dung will provide a sanitary alternative to current methods and contribute to a reduc-

119 Article 12 Kyoto Protocol. See also, Kyle W. Danish, “The International Regime 46,” in ed. M. Gerrard, *Global Climate Change and U.S. Law* (2007).

120 *Ibid.*

121 ABA, *Global Climate Change*, supra note 59.

122 Alan S. Miller, “International Trade and Development 296,” in ed. M. Gerrard, *Global Climate Change and U.S. Law* (2007), p. 286.

123 “Turning Cattle Manure into Cooking Oil in Rwanda,” *Japan Energy Scan*, July 7, 2008.

124 *Ibid.*

tion in GHG emissions.¹²⁵ In this specific project, three goals – a clean environment, sustainable development, and the right to food – are reached simultaneously. However, the latter (human rights) is not a condition for CDM approval.

Part of the criticism of the CDM structure has indirectly revolved around this lack of consideration for the most vulnerable populations. CDM's investment is focused overwhelmingly on the richer developing countries (See Map Locations CDM Projects), and within those countries, the investment is not going to projects that deliver sustainable development or alleviate poverty but to projects that involve reduction of gases from chemical facilities, coalmines, and landfills.¹²⁶

Forestry projects receive special scrutiny under CDM because land use and changes in LULUCF projects can generate removals for several years, but then release carbon into the atmosphere as a result of fire, disease, or human-induced deforestation, which eliminates climate-related benefits.¹²⁷ Under the coordination of the SBSTA, LULUCF promotes the conservation and enhancement of these natural emission sinks and reservoirs, inspired by the IPCC's "Good Practice Guidance for Land Use, Land-Use Change and Forestry."¹²⁸

Only afforestation and reforestation receive CER credits under the CDM.¹²⁹ The decision not to award CER credits for the avoidance of deforestation is especially noteworthy, as it eliminates a major potential source for tropical forest conservation and biological GHG sequestration.¹³⁰ Rather than preserving existing forested areas by incentivizing preservation, this policy in fact encourages forest destruction (e.g., by slash and burn agricultural practices), because then developed countries can receive credits for replanting efforts. In addition, this policy creates a tension between developing countries' interests in deforesting areas for use as farmland or grazing, and developed countries' incentives to reforest the area. (See the discussion on UN-REDD *infra* sec. 2.5.1.2).

The CDM's mitigation projects are located in developing countries. Even though the purpose of the projects – mitigation itself – benefits the protection of the human right to food by preventing climate change, these projects may have other impacts on human rights. CDM projects could very well limit emissions and promote development – conditions for their approval – but still have a

¹²⁵ *Ibid.*

¹²⁶ Miller, "International Trade"; *supra* note 122, p. 295.

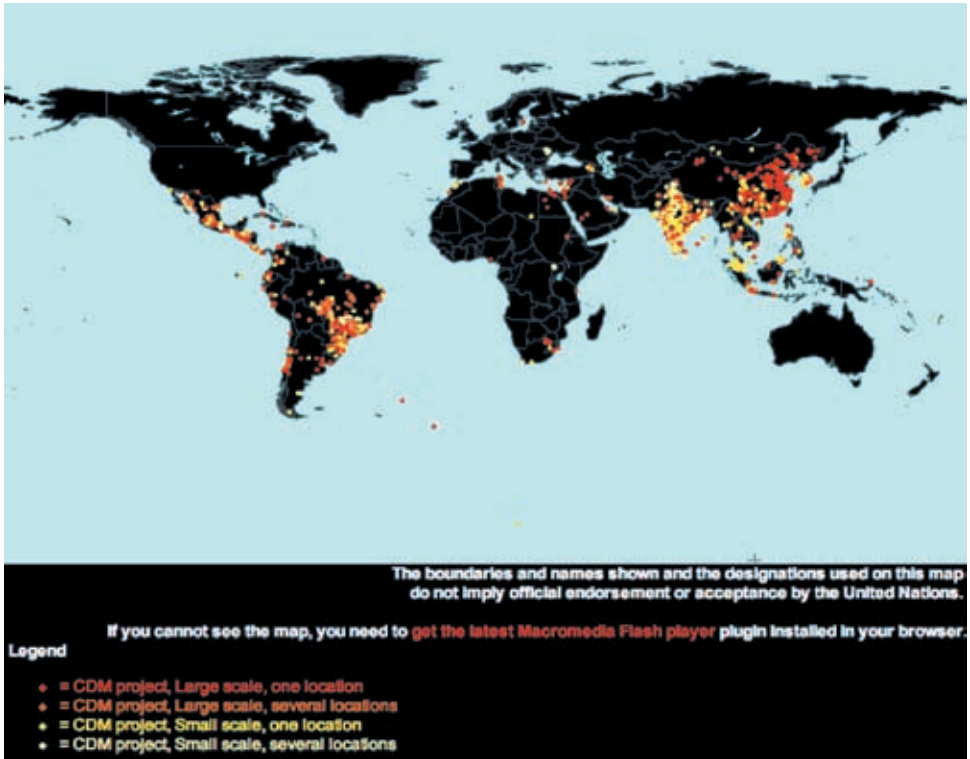
¹²⁷ Danish, "The International Regime 46"; *supra* note 119, p. 49.

¹²⁸ IPCC, "Good Practice Guidance for Land Use, Land-use Change and Forestry," available at http://www.ipcc-nggip.iges.or.jp/public/gpplulucf/gpplulucf_contents.html. With regard to the Kyoto Protocol, the COP adopted an analogous document to develop national inventories on the LULUCF sector named the "Good Practice Guidance for Land Use, Land-use Change and Forestry Activities" under Article 3, paragraphs 3 and 4, Kyoto Protocol, Decision 15/CP.10, available at http://maindb.unfccc.int/library/view_pdf.pl?url=http://unfccc.int/resource/docs/cop10/10a02.pdf

¹²⁹ *Ibid.* pp. 48–9.

¹³⁰ David J. Hayes and Joel C. Veauvais, "Carbon Sequestration 705," in ed. M. Gerrard, *Global Climate Change and U.S. Law* (2007).

Location of Clean Development Mechanism Projects



Source: UNFCCC Clean Development Mechanisms, online at <http://cdm.unfccc.int/Projects/MapApp/index.html> (version of August 2009)

negative impact on human rights of the specific community where the project is implemented. Safeguards for human rights should be at the center of upcoming negotiations.

Reduced Emissions from Deforestation and Degradation

A particularly relevant program related to LULUCF is the UN-REDD program, launched at the Bali COP in December 2007.¹³¹ The program tries to reconcile the need to take action on the contribution of GHG emissions from deforestation in developing countries with the need of development in those countries. In Bali, the COP recognized that “the needs of local and indigenous communities should be addressed when action is taken to reduce emissions from deforestation and forest degradation in developing countries.”¹³² On the one hand, simply avoiding further deforestation is a cheap way to reduce emissions. Accordingly, the integration of avoided deforestation under the CDM is one of the main issues to be discussed in future negotiations. On the other hand, as the Convention

¹³¹ Decision 2/CP. 13 (2007).

¹³² Ibid.

establishes, mitigation obligations imposed on developing states must take into account that development and poverty eradication are the first and overriding priorities of such state parties. As it has been explained:

*Any international 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% of the 1.2 billion people living in extreme poverty around the world depend on forest resources for some part of their livelihood." ... 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 ... Forest conservation has in some cases led to tightened restrictions on indigenous peoples without a correspondingly proportionate restraint of commercial logging.*¹³³

Therefore, human rights experts recommend that before allowing developed countries and their companies to obtain GHG emission-reduction credits through UN-REDD, the program should integrate solid human rights safeguards.¹³⁴

2.6 Coping with Climate Change Harm through Adaptation Measures

The UNFCCC requires state parties to adopt national programs and policies to adapt to climate change.¹³⁵ It specifies that parties should focus on the specific needs and concerns of developing countries, prioritizing the assistance to vulnerable populations under the framework.¹³⁶ The Convention requires developed countries to provide financial and technological assistance to developing countries to comply with their obligations and meet the costs of adaptation. (Table on costs of CC adaptation in 2030)

Adaptation measures were not at the center of the initial climate change negotiations, but based on the aforementioned commitments, the framework has increasingly created guidelines, experts groups, funding mechanisms, and other institutions and programs to cope with climate change.¹³⁷ Consistent with the precautionary principle, "it has become clear that the additional benefits of

¹³³ *ICHRP Rough Guide 2008*, p. 32.

¹³⁴ *Ibid.* See also, *CIEL Practical Steps 2009*, p. 31.

¹³⁵ Article 4(b) UNFCCC.

¹³⁶ Countries that are particularly vulnerable to climate change and receive special attention under the framework are: (1) least developed countries, (2) small islands, (3) countries with low-lying coastal areas, (4) countries with arid and semi-arid areas, forested areas and areas liable to forest decay, (5) countries with areas prone to natural disasters, (6) countries with areas liable to drought and desertification, (7) countries with areas of high urban atmospheric pollution, (8) countries with areas with fragile ecosystems, (9) countries whose economies are highly dependent on income generated from the production, processing and export, and/or consumption of fossil fuels, and (10) landlocked and transit countries. See Articles 4.8 and 4.9 of the UNFCCC.

¹³⁷ *Brot für die Welt Report 2008*, p. 32.

Costs of Climate Change Adaptation in 2030

Additional Investment and Financial Flows Needed for Adaptation in 2030		
Sector	Global (billion USD)	Share of developing countries
Agriculture, forestry, and fisheries	14	50%
Water supply	11	80%
Human health	5	100%
Coastal zone	11	40%
Infrastructure	8–130	25%

Source: J.B. Smith, *Preliminary Estimates of Additional Investment and Financial Flows Needed for Adaptation in 2030* [Aug. 28, 2007], available at http://unfccc.int/files/meetings/dialogue/application/pdf/070828_smith.pdf

adaptation to climate change will be huge and the early action is cheaper than a post-disaster response, even though there are still many uncertainties in the existing adaptation costs estimates.”¹³⁸

2.6.1 Least Developed Countries Work Program

The Least Developed Countries Work Program was adopted during the COP-7, acknowledging that LDCs do not have the means to deal with the problems associated with adaptation to climate change.¹³⁹ One of the program’s main purposes is to develop technical capacities to integrate vulnerability and adaptation assessment into sustainable development programs, and develop National Adaptation Programs of Action (NAPAs) within LDCs.

In order to achieve the program’s purposes, the COP created the Least Developed Countries Expert Group.¹⁴⁰ In addition to providing advice for the NAPA process, it has the mandate to take into account the Nairobi Work Program, which is the key vulnerability assessment program under the framework (see above). Actually, the LDC Expert Group has collaborated with the Consultative Group of Experts on National Communications from Non-Annex I Parties on integrating the information contained in NAPAs into national communications.¹⁴¹

¹³⁸ Ibid., p. 35.

¹³⁹ Decision 5/CP.7.

¹⁴⁰ Decision 27/CP.7.

¹⁴¹ Report on the Least Developed Countries Expert Group stocktaking meeting on the progress made by parties in the preparation and implementation of national adaptation programs of action, FCCC/SBI/2007/32 (Oct. 2007).

National Adaptation Programs of Action

NAPAs are documents that communicate priority activities addressing the urgent and immediate needs and concerns of the LDC relating to adaptation to climate change. Such activities would be “those whose further delay could increase vulnerability, or lead to increased costs at a later stage.”¹⁴² These activities include those whose further delay could cause human rights violations that increase vulnerabilities and adaptation costs at a later stage. Once a NAPA is completed, it is submitted to the UNFCCC Secretariat, and the LDC party becomes eligible to apply for funding for implementation of the NAPA under the LDC Fund (see below).

In general, the annotated guidelines for the preparation of NAPAs establish the following main guiding elements to develop the program of action¹⁴³:

- a participatory process involving stakeholders, particularly local communities. As explained in the 2007 report of the LDC Expert Group, “policymakers have acknowledged that local communities have a significant amount of knowledge of local climate histories, environment-climate interactions, mechanisms for coping with climate-related disasters and potential actions that could promote adaptation.”¹⁴⁴ This guiding element empowers local communities and advances the recognition of active rights-claimants within the framework;
- a multidisciplinary approach in order to capture all the components of sustainable development: economic, social, and environmental;
- a complementary approach building upon existing plans and programs in order to harmonize the planning process. This is important to create coherence and effectiveness in the process;
- sustainable development; as seen above, the respect of human rights is essential for achieving sustainable development;
- a country-driven approach; this national focus does not preclude opportunities for regional synergies or international cooperation, but is important in order to center the attention on vulnerable communities at the national level;
- cost-effectiveness, which should be interpreted in the wider context of sustainable development, rather than least-cost alone. This element is essential to avoid the selection of adaptation measures that does not take into account the long-term social and economic benefits of protecting human rights.

Consistent with the Aarhus Convention and with the provisions on education and information under the UNFCCC, these guiding elements recognize the importance of providing access to information and public participation to

¹⁴² Least Developed Countries Expert Group, *Annotated Guidelines for the Preparation of National Adaptation Programs of Action* (July 2002).

¹⁴³ *Ibid.*

¹⁴⁴ Report on the Least Developed Countries Expert Group.

rights-holders and promote the sustainable development within the LDC. Ironically, NAPAs have been criticized as not being that effective in achieving their purposes, since national marginalized groups may also be marginalized from NAPA developing processes. Specifically, experts have explained that:

[T]here is a high risk that setting priorities in the management of climate change impacts will overlook or marginalize those groups who have not been in the centre of national policies. They might be marginalized again if their situation is not prioritized in the allocation of resources. Poor groups in society who are already marginalized might get the least attention in the formulation of national adaptation strategies.

Countries will be confronted with conflicts over the use of financial and other resources available to deal with the consequences of climate change.¹⁴⁵

Therefore, as with the national communications, it is important that international cooperation efforts guarantee that the most vulnerable and marginalized populations have their voice in the process of preparing NAPAs. As with the IPCC Working Group 2 and the Non-Annex I parties' national communications, NAPAs may confront a lot of technical, social, and monetary barriers that will have to be overcome through effective international and national cooperation efforts.

Potential Benefits of Bottom-up Adaptation Planning: Grenada

Communities have found many unique ways to adapt to the problems presented by climate change. Localized efforts are often better at addressing the specific impacts that are felt in different regions and by different cultures. One such example of adaptation measures can be seen in recent changes undertaken by communities in Grenada to switch their farming practices from single-crop growth to the “strip cropping” of many different plants on a single farm site. Grenada, which has always been in the path of hurricanes and tropical storms, has felt severe negative repercussions from the increased instances of these natural disasters in recent years. With less than 6 percent of the nation’s land considered “flat,” farmers were having difficulties keeping crops in place and preventing harvests from being washed away by continual heavy rainfall and floods. Additionally, the increasing regularity of tropical storms was causing soil erosion and degradation, making it more difficult for plants to take root in viable, nutrient-heavy ground. Grenadans have been careful in their implementation of these new agricultural processes; in order to make strip cropping as successful a response as possible, Grenadans grow close-growing crops like grasses and corn in parallel, equal-sized strips with more sparsely growing

¹⁴⁵ *Brot für die Welt Report 2008*, p. 105.

crops. This method reduces soil and water run-off, and helps preserve the quality of nutrients in the soil. Strip cropping has been widely utilized in the hilly regions of the country, greatly increasing crop yields from year to year. Best of all, it costs very little to implement, and results in no negative consequences that might counsel in favor of more traditional farming practices.

With regard to the human right to food, the “criteria for selecting priority activities” under the NAPAs analyze the level or degree of adverse effect of climate change on food security and agriculture. A report presented by the LDC Expert Group on October 2007 explains that the majority of the priority adaptation projects identified in the submitted NAPAs were in the areas of agriculture, forestry and fisheries, which are directly related to food security.¹⁴⁶

For example, Tuvalu’s NAPA identified the vulnerability conditions that could cause human right to food violations within its jurisdiction. The Tuvalu’s National Adaptation Program of Action points at the decline of domestic subsistence agricultural production and the resulting dependence on imported foods, internal urban drift, and changing lifestyle. In order to adapt to these impacts, Tuvalu proposed a project that consists of increasing subsistence pit-grown pulaka productivity through the introduction of a salt-tolerant pulaka species, with an estimated cost of USD 2.2 million. This example shows that these assessments are extremely important for the protection of human rights within the framework, since they identify the most “immediate and urgent adaptation needs” in order to have a life of dignity and well-being.

NAPA Tuvalu: Food Security Assessment

Tuvalu listed the following adverse impacts of climate change and variability on subsistence agriculture that are currently affecting the island:

- The effect of saltwater intrusion on agriculture will be exacerbated in the future by increasing frequency of tropical cyclones and extreme events.
- The combined effect of saltwater intrusion and increasing temperatures will increase stress on fruit trees, rendering them prone to pest infestation.
- The combined effect of saltwater intrusion and increasing frequency of extreme events and droughts will result in crop yield losses of (more than) half of the pulaka, coconut, banana, and breadfruit.

Source: Tuvalu’s National Adaptation Programme of Action [May 2007], available at <http://unfccc.int/resource/docs/napa/tuv01.pdf>; *Brot für die Welt Report 2008*, p. 157; UNFCCC, at http://maindb.unfccc.int/public/adaptation/adaptation_casestudy.pl?id_project=186

¹⁴⁶ Report on the Least Developed Countries.

2.6.2 Expert Group on Technology Transfer

At the COP-7, the Expert Group on Technology Transfer was created with the objective to promote international cooperation for the development and transfer of technology to mitigate climate change in all sectors (including agriculture and forestry) in accordance with the state parties' commitments under the UNFCCC.

The Expert Group's work on technology transfer is divided into five key themes, three of which focus on the effective transfer of technology to vulnerable populations. First, through "technology needs and needs assessments," the Expert Group helps identify mitigation and adaptation technology priorities – particularly of developing countries – that provide assistance to Non-Annex I parties to conduct technology-needs assessments (TNAs).¹⁴⁷ Second, through the "capacity-building" process, they build and strengthen existing scientific and technical capabilities, particularly in developing countries. Third, the "technologies for adaptation" work aims to improve current knowledge and understanding of adaptation to climate change, including the assessment, development, and transfer of technologies for adaptation and its implication for climate policy.¹⁴⁸

USAID, Climate Change, and Food Security: Mali's Case Study

The United States Agency for International Development (USAID) developed a climate change adaptation program that seeks to help developing countries to reduce their vulnerability and better adapt to climate change. Mali participates in a pilot project under this program that attempts to identify climate vulnerabilities and solutions within the agriculture sector in order to improve the sector's robustness to climate change and overall productivity. Mali is one of the poorest countries in the world and its agricultural sector accounts for a substantial portion of its gross domestic product. In addition, Mali faces a food crisis, since around 28 percent of its population is undernourished. As a result of this project, USAID identified six ways in which it can help to improve Mali's agricultural productivity: (1) promoting water harvesting techniques, (2) promoting crop diversification, (3) improving soil management through integrated natural resource management, (4) providing farmers with access to credit for fertilizers, equipment, and storage, (5) improving accuracy of and availability of weather forecasting, and (6) training farmers on no-cost or low-cost adaptations that can be readily implemented. USAID acknowledged that stakeholder's involvement was critical for the project; local farmers had experi-

¹⁴⁷ As of 2007, 25 Non-Annex I parties have completed their TNAs.

¹⁴⁸ UNFCCC Expert Group on Technology Transfer, *Five Years of Work Brochure* (2007).

enced declining crop yields and were highly motivated and engaged in the process.

Source: USAID, *Agriculture and Food Security*, case study, available at <http://www.gcric.org/library/2008/mali.pdf>

The transfer of new technologies in the field of agriculture is particularly relevant to our discussions, since adapting production techniques can help smallholder farmers cope with changing climatic circumstances. The Expert Group explicitly recognized that: “[l]ow productivity in agriculture is a major cause of poverty, food insecurity and poor nutrition in low-income developing countries.”¹⁴⁹ Over the decades the agricultural sector has adopted technologies for addressing adverse effects of climate events, such as irrigation, high-yielding crop varieties, diversification of crops, and drought and salt tolerant varieties. For example, a modern technology that should be promoted is the New Rice for Africa, which is a cross-variety of African rice with varieties of Asian rice that produces early-maturing, higher-yielding, drought-tolerant, and pest-resistant varieties able to thrive in saline soils. The Expert Group understands that this type of technology could cope with stresses related to climate change and food demands of growing populations, especially in sub-Saharan Africa.¹⁵⁰

Example of Technology Transfer for Adaptation: Sierra Leone

The development of a new mangrove rice variety in Sierra Leone is an important case study of the type of technology development and diffusion that can contribute to increased food outputs while at the same time reducing the adverse impacts of global agricultural practices on climate change. A coalition of organizations developed and distributed a rice variety that was suitable for mangrove growth, a change which increased yields per unit and provided the rice growers with an easy method of adapting to climate change. The parties involved in the new rice development method included consumers and farmers in Sierra Leone, Sierra Leonean agricultural researchers, and the West African Research Development Association (WARDA). WARDA provided additional resources to the research station that carried out the development of the new rice variety. The development and diffusion of the crop took only a few years. There were no royalties or commercial benefits involved, as the researchers were able to demonstrate to financial supporters the value of contributing to this new technology and

¹⁴⁹ UNFCCC, “Application of Environmentally Sound Technologies for Adaptation to Climate Change,” FCCC/TP/2006/2 (May 2006).

¹⁵⁰ *Ibid.*

its transfer to local communities. The impact of the project was an increase in rice output where climate change had begun to reduce yields from this agricultural resource. This case is replicable, and its key component was the existence of local research and development capacity, as well as WARDA's willingness to provide the marginal limited resources that the government of Sierra Leone was unable to provide.

Source: IPCC 2001, Report on Methodological and Technical Issues in Technology Transfer, Box 11.7

The development and transfer of environmentally sound technologies to vulnerable populations is one of the most costly efforts under the framework. As a consequence, the Expert Group on Technology Transfer works closely with the Global Environmental Facility (GEF, see below) and other multilateral institutions to generate the necessary funding for its objectives.

2.6.3 Financial Mechanisms: The Global Environmental Facility

Article 11 of the UNFCCC establishes a financial mechanism to provide funds to parties for the effective implementation of the Convention, particularly with regard to adaptation efforts in developing countries. The COP assigned the operation of the financial mechanism to the GEF, which is accountable to the COP for the management of three special funds: the Special Climate Change Fund, the Least Developed Countries Fund, and the Adaptation Fund under the Kyoto Protocol. In addition, the COP decides the policies, program priorities, and eligibility criteria for projects funded by the GEF.

Example of Local Adaptation Measure: Climate Insurance

Insurance against risk to food-based effects of climate change is both necessary and possible. Individual communities have begun to take matters into their own hands, seeking out local means of insuring against such damages. In Ethiopia, one town found a private insurer, AXA re, which was willing to provide local farmers with weather insurance. Any vulnerable party – from larger-scale farms to individual small growers – can sign a contract with the company before the growing season begins, paying them a small annual fee. Under these contracts, the insured are entitled to payouts against abnormally low rainfall and crop yields. The insurance company sets a price floor for the crops the farmer is growing ahead of time, based on the predictions of meteorologists regarding that year's rainfall, and based on past market performance. If the price of the insured's crops

on the market in a given year falls below that price, then they are entitled to the insurance payments.

In addition to helping farmers plan for the future and provide for their families, this system of insurance also encourages growth and development in the meteorological sector, providing for capacity-building beyond the agricultural industry. Working as a whole, an insurance system like this one improves community independence, reduces the need for food aid, and encourages self-sufficiency in local farmers.

Source: FAO Climate Change Framework Document 2008, p. 40, which cites to Hess, [2006]

There are two main problems within the structure and function of these funds with regard to human rights protection. First, there is a considerable lack of funding, since usually these funds obtain their money or resources through voluntary pledges and contributions of state parties. Consequently, “[u]nder the current funding mechanisms, less than 1 percent of the estimated necessary adaptation costs has been delivered.”¹⁵¹ The choice to rely on voluntary funding fails to recognize that climate justice is not merely about distributive justice but also about corrective justice; that is, about compensating for human rights violations caused by one set of actors (particularly polluting groups) upon human rights victims. Adaptation funding is a primary mechanism for ensuring that those whose rights are most (likely to be) affected can cope proactively or after the harm has occurred. Adequate funding should therefore be seen as an obligation upon polluters rather than voluntary contributions.

Second, the lack of direct public participation within the fund allocation process is also inconsistent with a rights-based approach. NAPAs are an indirect and important means with which to provide such participation in the process. Yet, country-level discretion risks diverting funds from those most in need. Accounting mechanisms could check whether funds are effectively spent once granted and used. The following sections provide a general description of these three funds.

Special Climate Change Fund

The Special Climate Change Fund is the most general fund. It was established to finance projects related to adaptation, technology transfer, and capacity-building as well as energy, transport, industry, agriculture, forestry, waste management, and economic diversification. This fund has the purpose of complementing other funding mechanisms for the implementation of the Convention.¹⁵²

¹⁵¹ *Brot für die Welt Report 2008*, p. 38.

¹⁵² UNFCCC, *Funding under the Convention*, 7/CP.7, available at <http://unfccc.int/resource/docs/cop7/13a01.pdf#page=43>

Least Developed Countries Fund

The LDC Fund was created for the implementation of the NAPAs under the LDC Program.¹⁵³ Once a NAPA is completed and submitted to the UNFCCC Secretariat, it is eligible to apply for funding under the LDC Fund. To initiate implementation, the state party must develop a full project proposal that is ready for implementation under the GEF project cycle. The country is closely assisted through this interactive process by a GEF agency, such as the World Bank (WB) or the UNEP. Therefore, the NAPAs play a key role in the prioritization of adaptation projects eligible for funding and the achievement of local community participation through that process (see above). Some parties have complained that accessing funds for the implementation of NAPAs has been difficult due to slow GEF Procedures.¹⁵⁴

Adaptation Fund

The Clean Development Mechanism (see above) has the capacity to generate upwards of USD 100 billion per year under a post-Kyoto agreement.¹⁵⁵ Contrary to the voluntary pledges of the other funds, the CDM automatically collects a “share of the proceeds” from each CDM project through the Adaptation Fund (AF) to provide financial assistance to aid developing country parties that are particularly vulnerable to the adverse effects of climate change in meeting the costs of adaptation.¹⁵⁶ The share of proceeds amounts to 2 percent of the CERs issued to a CDM project, but still it is insufficient to cover the adaptation needs.¹⁵⁷ We must remember that the creation of the AF was conditioned to state parties’ consent, and therefore it was initially analogous to a voluntary pledge.

The AF is supervised and managed by the Adaptation Fund Board. In addition, the GEF supports it with secretariat services and the WB serves as its trustee on an interim basis. In assessing project proposals, the AF Board should give particular attention to the project’s consistency with the national sustainable development strategy, including national development plans, poverty reduction strategies, national communications, and NAPAs. In addition, among other factors, the AF Board must consider the level of vulnerability of the eligible

153 LDC Fund, see http://unfccc.int/cooperation_support/least_developed_countries_portal/ldc_fund/items/4723.php

154 “Developing countries have often complained about the complex and lengthy procedure for proposals addressed to the Global Environment Facility (GEF), which manages the LDCF.” *Brot für die Welt Report 2008*, p. 145.

155 Miller, “International Trade”, supra note 122.

156 *Ibid.*, citing Kyoto 12.8. At CMP in Poznań, Poland, in December 2008, parties considered the report of the Adaptation Fund Board (UNFCCC, *Report of the Adaptation Fund Board* [2008], available at <http://unfccc.int/resource/docs/2008/cmp4/eng/02.pdf>) and adopted a decision that puts the necessary administrative and legal arrangements in place to allow for full operationalization of the Adaptation Fund (Decision—CMP 4: Report of the Adaptation Fund Board [hereafter *CMP4 Decision 2008*] (2008), available at http://unfccc.int/files/meetings/cop_14/application/pdf/cmp_af.pdf)

157 *Brot für die Welt Report 2008*, p. 145.

state parties and the level of urgency and risks arising from the delay in order to allocate its resources. Therefore, the current strategic priorities and policies of the AF indirectly promote the protection of human rights, even though it does not recognize human rights-holders as such. Indeed, this fund does not recognize the *right* of individuals to obtain redress to human rights violations caused by climate change impacts, since the institution only relies on state parties' consent. Also, it does not provide direct public participation within the resource allocation process. A risk thus persists that, once obtained, funding may not be spent on what it was intended for, necessitating adequate scrutiny of revenue flows.

2.7 Enforcing the Climate Change Regime

To give teeth to its principles and commitments, regimes generally incorporate positive and negative incentives that compel states to comply with what they agreed upon. This could take the form of financial benefits (to boost compliance) or sanctions (to punish violations), which are imposed either by peers or by an independent institution mandated to monitor the application of the commitments.

2.7.1 The Lack of an Independent Enforcement Institution under the UNFCCC

Under the Framework Convention, such incentives are generally weak. Unlike the Kyoto Protocol, the UNFCCC does not have a specific institution that can sanction non-complying states. Sometimes, specific aspects of the regime have their own rewards: LDCs, for instance, have little to lose from submitting a NAPA, since they may qualify for funding and there are few negative incentives (if the funds are not spent well, for instance, there is little threat of far-reaching sanctions). Sometimes there is no incentive whatsoever. National communications from Non-Annex I countries, for instance, have no fixed date nor any sanction for non-submission. Only when they have received funds to prepare such communications is there a deadline of four years after the disbursement of financial support.

From a rights-perspective, this is particularly problematic. Indeed, it means that some of the commitments or principles that seem aligned with – and even beneficial for – the promotion and protection of human rights, such as the right to food, may not be respected in practice for a lack of enforcement tools. States under the UNFCCC have a (soft) commitment to adopt mitigation measures to avoid dangerous climate change (and thus prevent future human rights violations), but it is generally recognized that the more binding commitments of the Kyoto Protocol are largely insufficient to keep the climate under the +2°C threshold of dangerous global warming. Likewise, NAPAs may be required to emanate from a participatory process and focus on the most vulnerable, but there are few guarantees that funding will actually be spent in compliance with those principles.

2.7.2 The Compliance Committee of the Kyoto Protocol

The Kyoto Protocol partially addressed the lack of enforcement through the creation of a Compliance Committee – “partially,” since it only covers (some of) the commitments under the Protocol, which focuses mainly on (discretionary) mitigation measures. The Compliance Committee consists of two bodies: the Facilitative Branch and the Enforcement Branch.¹⁵⁸ The Facilitative Branch aims to prevent state parties’ noncompliance before it occurs, and the Enforcement Branch assesses Annex I state parties’ compliance with respect to reporting and emission reduction-binding commitments.¹⁵⁹ The Enforcement Branch is empowered to (1) determine that the state party is ineligible to participate in the flexible mechanisms under the Protocol, (2) require adjustments to emissions inventories, and (3) impose penalties for noncompliance.¹⁶⁰ A state party may submit a “question of implementation” with respect to another state party before the Committee.¹⁶¹

The Kyoto Compliance Committee is a relevant actor, but since the Protocol mainly focuses on combating climate change through the achievement of emission-reduction goals, the Committee focuses on monitoring the achievement of those obligations without taking concrete measures to provide accountability for human rights violations. These mechanisms clearly do not provide means to obtain redress from the negative human consequences that climate change impacts, policies, and measures have.

2.7.3 Alternative Mechanisms to Address the Actual Human Harm of Climate Change

So far, initiatives at the international level to highlight the adverse human impacts of climate change have remained unsuccessful in obtaining clear statements of human rights responsibilities under the climate change framework. The most illustrative example to date has been the Inuit Petition, brought by the president of an Inuit coalition against the United States. On a more hypothetical basis, thoughts have been directed toward asking the International Court of Justice (ICJ) to clearly spell out obligations of the international community toward small island states and their populations, which risk being particularly affected by climate change.

158 ABA, *Global Climate Change*.

159 *Ibid.*

160 *Ibid.*

161 UNFCCC, Rule 15 of the *Rules of Procedure of the Compliance Committee of the Kyoto Protocol*, available at http://unfccc.int/files/kyoto_protocol/compliance/background/application/.../rules_of_procedure_of_the_compliance_committee_of_the_kp.pdf

The Inuit Petition

The Inuit people, an indigenous collectivity living in the Arctic, presented a claim at the Inter-American Commission on Human Rights in 2005 seeking relief from human rights violations resulting from the impacts of global warming and climate change caused by acts and omissions of the United States.¹⁶² Even though the Inuit claim was presented at a human rights treaty body – and was mainly a human rights claim under the American Declaration on the Rights and Duties of Man – the Inuit people also claimed violations under the international “do no harm” principle, and the UNFCCC, to which the United States is a ratifying party. This makes the petition a great example of how environmental law and human rights law can be mutually inspiring and enforcing.

The Inuit people alleged that several provisions of the American Declaration were violated because of an insufficiently rigorous US anti-climate change policy, including the right to health and life, the right to personal and intellectual property, the right to culture and traditional land, and the right to their own means of subsistence. For the right to food specifically, the Inuit said climate change in the Arctic decreases food supplies because species migrate and harvesting becomes problematic (warming). In addition, melting ice, increasingly unpredictable weather, and more violent storms decrease the accessibility of food because hunters can no longer travel as far without risking ice cracks or unexpected storms. Finally, the adequacy of food has decreased since natural species have become less healthy and store-bought food creates previously non-existing health problems. Each of the violations is backed with concrete testimonies and scientific data, including from the IPCC 2001 report.

Interestingly, the main petitioner in the Inuit case not only used human rights law to make her point. Picture – Sheila Watt-Cloutier / Arctic / Done] Relying on the objective and principles of the climate change framework described above, she aimed to prove that these are not only in line with human rights principles, but that they could actually reinforce a human rights claim. To overcome the causal link problem, for instance – which has often been interpreted as requiring physical proximity (see below, chapter 3), the Inuit people representative relied on the do no harm principle to claim that:

[T]he United States also has an obligation to ensure that activities within its territory do not cause transboundary harm or violate other treaties to which it is a party. As a party to the UN Framework Convention on Climate Change, the United States has committed to developing and implementing policies aimed at returning its greenhouse gases emissions to 1990 levels.¹⁶³

¹⁶² The full text of the petition is available on the website of the Inuit Circumpolar Council: www.inuitcircumpolar.com.

¹⁶³ *Ibid.*



Sheila Watt Cloutier, petitioner of the Inuit case

With respect to the Trail Smelter case's holding with regard to the do no harm principle, the Inuit petition alleged an *injury of serious consequence* with clear and convincing evidence, such as the IPCC reports.¹⁶⁴ Had the Commission agreed to deal with the case, the Commission could have ordered measures similar to those in the Trail Smelter case, for example, a temporary regime to identify with clarity the injuries that climate change is causing to the Inuit community.

Remarkably, most of the remedies the petitioners requested were nothing more than a more rigorous enforcement of the UNFCCC. Firstly, the Inuit people asked the Commission to order the United States to “[a]dopt mandatory measures to limit its emissions of green house gases and cooperate in efforts of the community of nations – as expressed, for example, in activities relating to the United Nations Framework Convention on Climate Change – to limit such emissions at the global level.”¹⁶⁵

The Inuit people also asked the Commission to order the United States to take into account the impacts of US GHG emissions in the Arctic and its communities while evaluating all major government actions.¹⁶⁶ Again, this remedy is consistent

164 Even if the UN Framework Convention is a guiding document, the United States voluntarily ratified its principles and requirements, and therefore, has the obligation to act consistent to it. Furthermore, the “do no harm” principle is a well-established customary norm of international environmental law, on which the United States relied to secure Washington State environmental safety during the Trail Smelter dispute, and must respect with regard to its GHG emissions.

165 Ibid.

166 Ibid.

with the obligations assumed by the United States under the UNFCCC, under which the United States should give full consideration to the special circumstances of those countries that are particularly vulnerable to the adverse effects of climate change.

Finally, the Inuit people asked the Commission to order the United States to establish and implement a plan to protect Inuit culture and resources, mitigate any harm, and provide the necessary assistance for the Inuit to adapt to the impacts of climate change that cannot be avoided.¹⁶⁷ This remedy is also in accordance to the US' obligation under the UNFCCC to provide financial resources to assist particularly vulnerable developing countries with the costs of mitigation and adaptation measures to address climate change.

The Inter-American Commission on Human Rights rejected the Inuit petition because it found that the information provided did not enable the Commission to “determine whether the alleged facts would tend to characterize a violation of rights protected by the American Declaration on the Rights and Duties of Man.”¹⁶⁸ This is a missed opportunity to bridge the gap between two mutually reinforcing regimes. To put it simply, the Commission failed to recognize that in order to protect human rights, we need a strong climate change framework.

The Case of Tuvalu: Advisory Opinion from the International Court of Justice

Tuvalu is a small island located in the Pacific Ocean, predicted to be uninhabitable by 2050 due to rising sea levels.¹⁶⁹ As a consequence, this country has considered suing the United States and Australia for their failures to stabilize GHG emissions as required by the UNFCCC.¹⁷⁰ It claims that climate change has caused the rising of sea levels, and that this phenomenon is threatening Tuvalu's territory because the island has an average elevation of two meters above sea level, and is therefore extremely vulnerable to that type of change.¹⁷¹

Article 34(1) of the Statute of the International Court of Justice provides that only states may be parties in contentious cases before the Court. Also, parties must have consented to bring the case before the Court.¹⁷² The same consent requirement was established under Article 14 of the UNFCCC.¹⁷³ Neither the United States nor Tuvalu has accepted ICJ jurisdiction under the UN Framework Convention, and while Australia accepted the compulsory jurisdiction of the ICJ

¹⁶⁷ Ibid.

¹⁶⁸ Letter from the Inter-American Commission on Human Rights, available as a PDF link at <http://www.nytimes.com/2006/12/16/world/americas/16briefs-inuitcomplaint.html>

¹⁶⁹ Friends of the Earth Netherlands, *Analysis of Issues to be Addressed: Climate Change Litigation Cases*, 33 (2007).

¹⁷⁰ Ibid.

¹⁷¹ Ibid., p. 34.

¹⁷² Ibid.

¹⁷³ Article 14 of the UNFCCC establishes that in the event of a dispute between state parties, they can voluntarily seek settlement of the dispute through negotiations means of their own choice, or can voluntarily agree to submit the dispute to the ICJ and/or to an arbitration process.



Island of Tuvalu

Source: www.celysvet.cz

under the framework, this acceptance was made on the condition of reciprocity.¹⁷⁴ Also, Australia made an exception for disputes in which any party accepted the ICJ jurisdiction only for the purpose of the specific dispute; or if the acceptance to the Court jurisdiction was made less than 12 months prior to the filing of the claim.¹⁷⁵ Therefore, Australia's consent is also needed for the Tuvalu claim to be heard under the contentious and binding jurisdiction of the ICJ.

As an alternative, the Tuvalu island could seek an advisory opinion from the ICJ. The advisory jurisdiction of the ICJ is limited to claims presented by *public (governmental) international organizations*, but once the claim is presented before the Court, it “draws up a list of those States and international organizations likely to be able to furnish information on the question before the Court. As a rule, organizations and States authorized to participate in the proceedings may submit written statements, followed, if the Court considers it necessary, by written comments on these statements.”¹⁷⁶

Tuvalu made the following declaration under the UNFCCC: “Understanding that signature to the convention should in no way constitute a renunciation of any rights under international law concerning state responsibility for the adverse effects of climate change and that no provisions in the convention can

¹⁷⁴ Friends of the Earth Netherlands, *supra* note 169, p. 35.

¹⁷⁵ *Ibid.*

¹⁷⁶ International Court of Justice, Advisory Jurisdiction, available at <http://www.icj-cij.org/jurisdiction/index.php?p1=5&p2=2>

be interpreted as derogating from the principles of general international law.”¹⁷⁷ Therefore, Tuvalu is free to raise claims such as the US and Australia’s violations of the Trail Smelter’s “no harm” rule. Furthermore, since Australia recently ratified the Kyoto Protocol, Tuvalu could claim violations by Australia under the Kyoto Protocol, as well as violations by Australia and the United States under the UNFCCC.

2.8 Conclusion

The UNFCCC’s ultimate objective and principles are significantly compatible to the human rights framework’s principles and obligations (see chapter 4.1 for an overview). They both, in different ways, aim to protect human dignity and welfare for present and future generations through the sustainable protection of our common environment. The only main principles that seem to be lacking from the UNFCCC are the procedural guarantees established in the Aarhus Convention: access to information, public participation, and accountability means. The UNFCCC does integrate soft law obligations that promote access to information and public participation, but even though these guarantees are main principles under International Human Rights and Environmental Law, these soft law obligations are not guiding principles under the framework.

Based on the compatibility between the principles of both frameworks, the COP – as the supreme body of the UNFCCC – has the responsibility to recognize the fact that climate change is a human rights issue. In addition, it could create a subsidiary body or analogous institution under the framework to deal with the various concrete implications of such a recognition.

Consistent with the linkage between climate change and human rights, the IPCC is increasingly focusing on assessing and generating the necessary information on the human consequences of climate change, such as its impact on food security. However, this growing focus on human consequences still faces technical, social, and economic barriers to effectively integrate the perspective of the most vulnerable populations. Such barriers must be overcome through international cooperation and national efforts.

In addition to the IPCC reports, national communications play a major role in obtaining significant information about the national circumstances and policies of each member state, and its respective vulnerability status with respect to climate change, especially from developing countries. Therefore, it is important that these communications integrate objectives and complete vulnerability assessments on human consequences such as food insecurity. These assessments confront technical, social, and economic hurdles that should be overcome through international and national cooperation.

¹⁷⁷ M.G. Faure, A. Nollkaemper, *International Liability as an Instrument to Prevent and Compensate for Climate Change*, 43A Stan. J. Int’l L. 123 (2007).

With regard to mitigation measures, more stringent emission limits than under the Kyoto Protocol are necessary to avoid the dangerous consequences of climate change on human welfare. In addition, the cap-and-trade systems should be properly designed to take into account its possible national environmental justice and international climate justice consequences. Likewise, CDM project approval processes and the UN-REDD program should be properly designed to take into account its human consequences. In general, based on Article 4 of the UNFCCC, every mitigation measure should take into account its human impacts through an objective human-rights climate-change impact-assessment.

Effective adaptation measures significantly depend on international efforts, and even though they were not at the center of the initial climate change negotiations, there is an increasing consensus on its imminent priority. The NAPAs play a key role in identifying adaptation activities, whose further delay could cause negative human impacts. Therefore, international cooperation should focus on the improvement of this mechanism, especially in the elements that promote access to information and public participation of the most vulnerable populations. In addition, international cooperation should focus on providing the necessary funding to cover adaptation needs of the most vulnerable, such as the need for technology transfer.

Finally, the framework should improve its enforcement mechanisms to integrate accountability for human rights violations. For example, the framework should provide an effective means to obtain redress for the lack of access to information and public participation under the preparation process of NAPAs.

In general, this section assessed whether the climate change framework is well-equipped to take into account the fact that climate change is a human rights issue. Based on this assessment, chapter 4 will elaborate specific recommendations to reinforce the current compatibility between both frameworks. But first, the next chapter will assess if the human rights framework is well-equipped to confront the challenges of climate change.

3.0 Is the Current Right to Food Framework Well-equipped to Deal with Climate Change?

The previous section scrutinized the climate change framework from the perspective of human rights, and the right to food in particular. It noted the important ways in which the framework incorporates principles of justice and creates the basis for compatibility with the right to food, while also stressing the many gaps that could undermine compatibility in practice. Assuming that the opportunity exists, many of the “right to food” gaps might be filled by other institutional actors with initiative, expertise, and capacity for vigilant monitoring. This chapter provides a broad examination of some of the potential actors and the mechanisms that might be available to fill those gaps.

There are a number of relevant institutions and mechanisms. Most obvious, perhaps, are the institutions of the international human rights regime. For the United Nations, the human rights initiative and capacity are primarily located within the Human Rights Council, the human rights treaty bodies, and the Office of the High Commissioner for Human Rights. If the right to food is to be seriously incorporated into climate change thinking, the UN human rights bodies are the best situated for many of the tasks. With regard to food issues in particular, the Food and Agriculture Organization (FAO), which is moving toward adopting a right to food framework, will also have a major role.

As the introduction noted, the organized human rights community, including the official human rights mechanisms of the United Nations, has only recently begun to engage with the challenges of climate change. This relative passivity may in part be result from the technicalities of the climate change regime, and resources too limited to truly get acquainted with the specificities of the debate. At others times however, the problem lies in the persistent lack of awareness that climate change is a human rights issue.

As a result, this analysis examines three main roles the above-mentioned institutions could play to better address right to food implications of climate change. The first is recognizing climate change as a human rights issue, raising awareness about its pervasive effects and clarifying what states should do to adequately address these adverse effects. The second is using reporting and monitoring tools available in the human rights regime to assess policies states put in place to deal with climate change and provide technical advice to improve such policies. A last path for human rights initiatives is enabling those whose

food security has been obstructed as a result of climate change to seek redress for the suffering they endured, mostly through judicial or quasi-judicial human rights mechanisms. The two latter components are complementary: where non-judicial mechanisms allow for general, country- or region-wide assessments of human rights performances in the light of climate change, judicial tools can empower individuals to push for accountability from the perpetrators of specific human rights abuses.

Human rights institutions and the FAO are primarily focused on monitoring State Parties' behavior. Yet, other important players have significant influence on the extent to which human rights gaps are identified and filled. The World Bank and other international financial institutions (IFIs) in particular play a direct role in financing investment projects and overseeing funding mechanisms for adaptation measures. They also play an indirect role by vetting national budget and development policies as well as orienting international private investment. Their policies will have massive impacts on investments for mitigation and adaptation and will be particularly important for determining whether government policies will be enabled to account for human rights and the right to food. While other actors, such as transnational companies, can equally influence climate change for better or for worse, this chapter selects the World Bank as a case study to illustrate that responsibilities are not to be limited to the sole entity of the State.

3.1 Overview of Relevant Institutions

The UN human rights regime includes political bodies, independent experts, authoritative treaty bodies, and an agency headed by the High Commissioner to provide support, direction, and field operations.

- The Human Rights Council is a permanent body of elected member states with a general human rights mandate. It is responsible for a number of important Working Groups and individual experts charged with specific human rights mandates. While there is no specific mandate for human rights and climate change, there are a number that are particularly relevant to the issues, including, for example, the Special Rapporteurs for the Right to Food, the Right to Health, and the Right to Adequate Housing; and the Special Representative of the Secretary General on Business and Human Rights.
- The mandate-holders of the UN Human Rights Council are typically experts with strong international reputations and an independent basis or authority. They are independent in the fulfillment of their mandates, and they do not represent the views of the United Nations as an intergovernmental organization. While they report to the Council, and often to the General Assembly, they retain large latitude; a number of them have acted as initiators and catalysts of major developments in the field.
- Separate from the Council, each of the major UN human rights treaties has established a monitoring committee composed of experts elected by the states' parties. These human rights treaty bodies play a major role in clari-

fyng normative obligations and responding to the pressing issues through General Comments and the review of the periodic reports the states' parties submit to them.

- The Office of High Commissioner for Human Rights (UNOHCHR) staffs and supports these initiatives; it also conducts research and runs field operations.

These institutions are particularly suited to raising awareness of human rights issues, refining the normative obligations, developing tools for implementation, and critically assessing the outcomes. Yet, as discussed in the Introduction, they have only recently begun to engage with the specific challenges of climate change. The result is that there are few concrete examples of their capacities in this field. Instead, the analysis points toward the opportunities available and the possibilities that could be achieved.

The FAO is a specialized agency of the United Nations that was created in 1945 to promote improvements in agriculture, nutrition, and the conditions of rural populations through the separate and collective action of its member states.¹⁷⁸ It has an independent budget and governance structure, led by the 191 members who compose the Conference of Member Nations. Its mandate is heavily oriented toward policy research, information sharing, technical assistance, and support for interstate cooperation. In 2004, it adopted the *Voluntary Guidelines to support the progressive realization of the right to adequate food in the context of national food security*. The Guidelines were the culmination of a long process of debate and reflection that resulted in increased prominence for human rights within the organization and the struggle for food security.

3.2 Raising Awareness about Climate Change as a Human Rights Issue

3.2.1 Recognizing the Importance of Climate Change for Human Rights such as the Right to Food

While the human right to a healthy environment has been the subject of significant debate within the international human rights regime, there is no general norm applicable to human rights in the face of climate change and even less clarity as to the normative implications for the right to food. The most explicit references to environmental rights in a human rights treaty are found in regional instruments and national constitutions rather than the UN treaties. The African Charter on Human and People's Rights and the San Salvador Protocol to the American Convention on Human Rights recognize the right to a clean environment. Overall, more than 50 national constitutions include some rights to a clean environment. Even where no explicit right is recognized, courts have often recognized the violation of *other* rights *because* of environmental harm. The ICJ, for

¹⁷⁸ Preamble, FAO Constitution.

instance, recognized the importance of a healthy environment for present and future human well-being in the *Legality of the Threat or Use of Nuclear Weapons* opinion. Under the European Convention on Human Rights, the right to life, the right to respect for private life, and the right to property have all been invoked to address the human rights impact of environmental nuisance.

Importance of a Healthy Environment for Human Rights

The environment is not an abstraction but a living space, the quality of life and the very health of human beings, including generations unborn. The existence of the general obligation of States to ensure that the activities within their jurisdiction and control respect the environment of other states or of areas beyond national control is now part of the corpus of international law relating to the environment.

Source: ICJ, *Legality of the Threat or Use of Nuclear Weapons*, §29

While environmental rights have thus been gradually integrated within the range of human rights, the human rights regime is far from identifying the specific rights implicated by climate change. Thus far, the human rights regime has lagged behind in realizing that the environment is *changing*, and that the changing climate is arguably one of the toughest human rights challenges in the coming decades.

3.2.2 Flagging the Issues

The Human Rights Council has taken some initial steps through resolutions that have put climate change on the agenda.

In March 2008, the Council requested a detailed analytical study from the UNOHCHR on the relation between climate change and human rights.¹⁷⁹ The study, published in January 2009, was a welcome first step. It identified rights that were particularly under threat, and helped highlighting the vulnerability of specific groups, including women, children, and indigenous communities.¹⁸⁰ Even though the problem of disparate vulnerability arguably reaches well beyond these defined groups, the study was an important demonstration of how climate change can lead to discrimination in violation of human rights norms.¹⁸¹ Yet, it did not go beyond analysis, and did not seek to identify specific measures states should take to take into account the impacts of climate change on human rights.

¹⁷⁹ HRCouncil Res 7/23 of March 28, 2008.

¹⁸⁰ UNOHCHR *Climate Change Report 2009*, §§ 42–64.

¹⁸¹ HRCouncil Res A/HRC/10/4 of 25 March 2009.

While the Council did not suggest any new mechanism to focus on climate change, it did encourage current Special Rapporteurs to draft reports on the importance of climate change for the specific human rights topic they monitor. This, at least, gives further support to Rapporteurs, who recognize the importance of the issue. At least two had already identified climate change issues in connection with their mandates. The Special Rapporteur on the Right to Food designated climate change one of his priority working areas (which was a major impetus for this report). The Special Rapporteur on the Right to Adequate Housing visited the Maldives to assess the impact of climate change on the right to adequate housing and plans on devoting her 2009 report to the UN General Assembly.

Special Rapporteur on Housing: Conclusions upon Visiting the Maldives

The Special Rapporteur believes that climate change has aggravated and will further amplify some of the problems linked with Maldives characteristics including land scarcity and vulnerability of the islands to natural phenomena. The impact of climate change on the acceleration of coastal erosion, frequency of storms and flooding, and the rise of the sea level will increasingly affect the housing and livelihood of many Maldivians.

Source: Raquel Rolnik, *Report on Mission to the Maldives*, Human Rights Council 10th Session [Mar. 9, 2009]

Outside the UN human rights regime, the FAO has been devoting considerable energies to the effects of climate change on food security. In addition to its framework document on Climate Change and Food Security (see Introduction), the FAO planned a high-level conference on climate change, energy and food security in June 2008 (although the topic was overshadowed by the world food crisis),¹⁸² created a portal site on Food and Climate Change, and launched the FoodClimate e-newsletter to hold onto the momentum and continue raising awareness. Moreover, it reached out to climate change bodies by submitting a policy brief for the Bonn talks (June 2009) in preparation of the post-Kyoto agreement.

All of these efforts are at the incipient stage, but they demonstrate both the possibilities for raising awareness and the limitations of short-term thinking. For the human rights mechanisms, much still depends on the initiative of individual mandate-holders and nothing is certain with respect to the sustained engagement of the Council or the UNOHCHR. The FAO has diverse activities in which

¹⁸² *High-Level Conference on World Food Security: The Challenges of Climate Change and Bioenergy* (FAO Headquarters, Rome: June 3–5, 2008).

human rights and climate change are not necessarily integrated. It is, for instance, part of a coalition of UN agencies actively promoting the UN-REDD program that currently lacks solid human rights safeguards (see chapter 5.2).

3.2.3 Clarifying State Obligations

Human rights analysts may recognize that human rights norms are *already* implicated by climate change and the framework that is emerging to address it, but the UN bodies have several tools for elaborating, clarifying, or, if necessary, supplementing existing human rights obligations. In doing so, they can bring attention and authority to the process that independent efforts lack. The UNOHCHR report on climate change is one small step in this direction. The Advisory Committee to the Human Rights Council and the treaty bodies have more far-reaching opportunities in this regard.

The Advisory Committee of the Human Rights Council – a group of 18 independent experts providing advice to the Human Rights Council – may, at the Council’s request, prepare proposals for the development of new standards. Until now, the Advisory Committee has not been asked to deal with the issue of climate change.

Treaty bodies have the authority to clarify treaty obligations for state parties that are required to report to them. Through a General Comment and through discussions with reporting states, a committee could, for example, spell out the nature of state obligations – domestically and in terms of international cooperation – when facing climate change. For the right to food, this task would come to the Committee on Economic, Social, and Cultural Rights, established by ECOSOC (CESCR; Resolution 1985/17) to promote compliance with the International Covenant on Economic, Social and Cultural Rights (ICESCR).

The General Comments of the Committee on Economic, Social, and Cultural Rights have both brought attention to important rights issues and raised them to the level of significant international jurisprudence. The comments issued so far provide some limited but important guidance: General Comment 12 on the right to adequate food says that “[s]tate parties should, in international agreements whenever relevant, ensure that the right to adequate food is given due attention” (General Comment 12, §36). This would obviously apply to post-Kyoto negotiations, but its generality does not serve the larger goal of focusing attention on climate change.

3.3 Monitoring Right to Food Policies in the Context of Climate Change

Monitoring and reporting have become critical elements to the human rights regime, particularly in areas of economic and social rights. The treaty-reporting process depends on self-reporting by states. The effectiveness of the system depends on well-designed reporting practices, incorporating vulnerability assessments, human rights indicators, and benchmarks. The system is at its most

effective when detailed self-reporting has been combined with shadow reports by civil society organizations and subject to public scrutiny by combining domestic and international forces.

Thus far, there are no reporting or monitoring requirements that explicitly incorporate climate change concerns. For the right to food specifically, human rights institutions and the FAO have designed special tools to verify whether and how food insecurity and vulnerability are assessed, whether local communities are informed about food security threats and are allowed to participate in remedying peculiar threats, and whether the state adequately curtails the behavior of those negatively interfering with the right to food. The output consists of qualitative and quantitative data depicting the overall situation of a country or region.¹⁸³ It often takes the form of a human rights report or impact assessment, discussed in different institutions of the human rights regime.

A range of guidelines and technical indicators have been developed to harmonize the structure and content of human rights reports and to make data more comparable over time and across countries. This section will first look into tools for qualitative data gathering (e.g., standard questionnaires) and subsequently deal with quantitative tools (e.g., statistical indicators and benchmarks). In both cases, it identifies opportunities for monitoring the impact of climate change and mitigation and adaptation policies on the realization of the right to adequate food.

3.3.1 Monitoring Guidelines

Within the UN system, states have two sets of reporting obligations: in the context of intergovernmental dialogue in the Human Rights Council, they are to submit a report for the so-called Universal Periodic Review (UPR). In addition, they have to report to the treaty bodies of specific human rights conventions they have ratified. In both cases, the attention for climate change as a cause of human rights violations has been sporadic.

General Human Rights Reporting: Universal Periodic Review and Treaty Body Reports

The new UPR facilitates discussion on the human rights situation of all UN member states, based on a state report, a UNOHCHR compilation of UN reports, and a “stakeholder” (mostly civil society) summary. Reporting guidelines are very brief; countries seem to have great discretion for the content of their reports. As a result, almost no state spontaneously reports on the climate change challenges it is facing. Surprisingly, even some of the small, developing island states – Tonga and Vanuatu for instance – remain silent on the issue of rising sea levels in their reports, failing to perceive it as a human rights problem.

183 FAO, The Right to Food Unit, *Methods to Monitor the Human Right to Adequate Food*, vol. 1 (Rome, Italy: 2008), p. 7.

In the rare instances that states reported on the threats of climate change, the problem was not addressed in a thorough manner in subsequent discussions. Bangladesh, for instance, pointed at flooding and other weather events related to climate change as some of the major challenges to further realize social and economic rights. In comparison, the UNOHCHR and the NGO reports barely raised the issue, except for a few references to the threat of flooding by the former. During the interstate dialogue, none of the developed states made recommendations to the Bangladeshi government on how to better protect human rights, such as the right to food, in the context of climate change, leaving it to Algeria, Bhutan, and the Palestinian representative to encourage Bangladesh in its efforts to adapt to climate change. One of the only meaningful discussions was with and in relation to the small island state of Tuvalu,¹⁸⁴ whose record in flagging the dangers of climate change in international fora has been demonstrated elsewhere in this report.

Universal Periodic Review – Bangladesh Cites Climate Change as Cause of Hunger

Bangladesh suffers from multifaceted environmental constraints that effectively challenge human rights and development efforts. Apart from natural disasters, deforestation, soil and river erosion, and degradation, and other consequences of climate change, for which Bangladesh is hardly responsible, are causing unexpected and major environmental crises to the detriment of the general populace. Bangladesh is a predominantly agricultural country where the people depend on crops and livestock for their livelihoods. Future projections of climate change impacts indicate that a substantial reduction in agricultural crops could occur in Bangladesh. Therefore, as global temperatures rise and severe weather conditions take hold worldwide, Bangladesh is likely to experience harsh climatic consequences. Chronic floods and more recently, cyclone Sidr in 2007 have severely affected crops in the northern and southern belts of the country adding to the overall scarcity of food.

... Massive investments in sectors of poverty eradication and climate change will be key to its success in promoting and protecting human rights of her citizens.

Source: UNHRC, Bangladesh, National Report submitted for the Fourth Session of the Universal Periodic Review, UN Doc A/HRC/WG.6/4/BGD/1, §118 and 122

¹⁸⁴ See, for instance, the submission of Tuvalu: A/HRC/WG.6/3/TUV/1 of September 12, 2008, pp. 42–3.

A similar pattern is visible in reporting practices for treaty bodies such as the Committee on Economic, Social and Cultural Rights mentioned above. Treaty bodies have provided more elaborate reporting guidelines than the UPR. The so-called Harmonized Guidelines on State Reporting¹⁸⁵ require states to compile a core document common to all human rights treaty reporting, and a treaty-specific document tailored to the treaty body they are reporting to. They could prove a key opportunity to ensure that climate change impacts and policies are systematically addressed. So far, however, the Harmonized Guidelines make no reference to climate change as one of the issues to be reported on.¹⁸⁶

Specific Right to Food Monitoring: FAO Guidelines

While the Harmonized Guidelines are relatively general, the FAO has provided more specific guidance for the monitoring of the realization of the right to *food*, drafting a monitoring questionnaire with various questions regarding the development and implementation of right to food norms.

A core element of the FAO monitoring guidelines is its attention for *causes* of right to food violations, which are not restricted to food-specific policies but could span a broad range of trends, programs, and projects of various administrative departments that may indirectly impact the realization of the right to food. The FAO Right to Food Unit indeed recognized that the causality analysis is “singly the most important factor of a right to food assessment” and that it includes a root cause analysis of “the system at subnational, national and *international* level that affects the potential of an individual to realize the right to food” [emphasis added].¹⁸⁷ It even lists climate change as one of the “international constraints that might be relevant for the vulnerable groups.”¹⁸⁸

In response to international causes of right to food violations such as climate change, the FAO suggests the following:

Strategies to eradicate the root cause of the problem may be reached through intergovernmental negotiations. If only mitigation of the problem is possible, a country may have to adapt its national policies and laws. In some cases, neither eradication nor mitigation is possible. In that case, the only coping strategy seems to be choosing a different path for development in which the international constraints are no longer harmful.

¹⁸⁵ International Human Rights Instruments, compilation of Guidelines on the form and content of reports to be submitted by state parties to the international human rights treaties, UN Doc HRI/GEN/2/Rev.5 of May 29, 2008.

¹⁸⁶ The recommendation section at the end of this report will make concrete suggestions as to how the Harmonized Guidelines could be adapted to better capture climate change harm.

¹⁸⁷ FAO, The Right to Food Unit, *Guide to Conducting a Right to Food Assessment* (Rome, Italy: 2009), p. 20.

¹⁸⁸ *Ibid.*, p. 64.

Applied to the issue of climate change, states would clarify which positions they have taken during climate change negotiations in the context of the UNFCCC COP and prove that their positions maximize the chances of combating climate change to the benefit of the realization of the right to food. They would also report on the strategies set up to adapt to harmful climate change impacts and how these strategies manage to lessen the constraints on the realization of the right to food. Given the current lack of far-reaching international agreements to address climate change and the lack of capacity of the most vulnerable countries to adapt to its effects, climate change risks becoming one of the cases where “neither eradication nor mitigation is possible.” It is not clear, however, which “different part for development in which the international constraints are no longer harmful” the FAO would then suggest.

Alongside the general right to food-monitoring guidelines, the FAO has also addressed the specific issue of food security measurements in the context of climate change. Its Food System Vulnerability Assessment aims at identifying impacts of climate change and of related policy measures on food security; that is, on the availability, accessibility, adequacy, and sustainability of food supplies and nutrition. While these recommendations are still not fully operative, the last section of this report provides more insight as to how the proposed assessment could better guide mitigation and adaptation policies.

3.3.2 Human Rights Indicators and Benchmarks

Human rights experts have developed tools to quantify (or at least objectify) human rights progress and to identify specific subgroups whose human rights are particularly at risk. “Without human rights indicators and benchmarks, it is difficult to see how these elusive concepts can be effectively monitored.”¹⁸⁹ Two sets of indicators and quantitative data specifically related to food security will be discussed here: the Food Insecurity and Vulnerability Information and Mapping Systems (FIVIMS) of the FAO and the Indicators, Benchmarks, Scoping, Assessment (IBSA) Procedure coordinated by the Committee on Economic, Social and Cultural Rights.

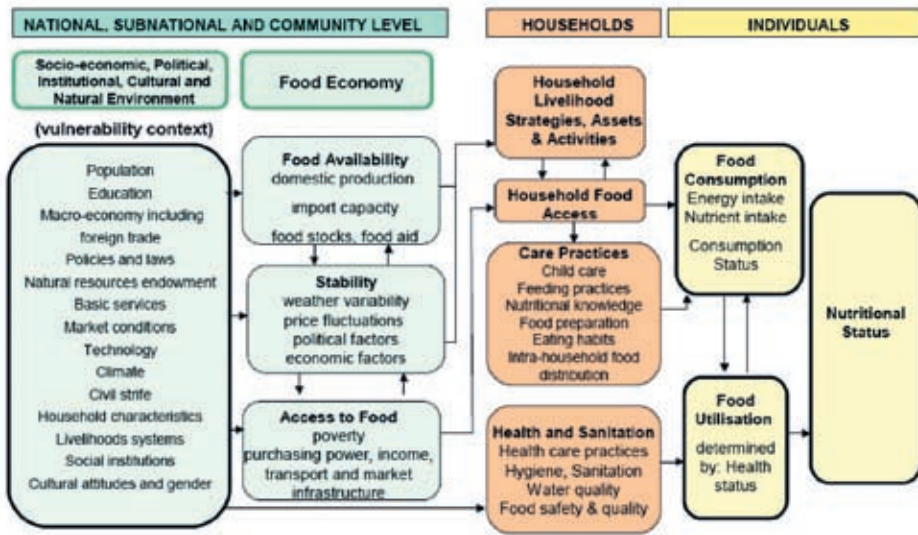
Mapping Food Insecurity and Vulnerability: FIVIMS in the Context of Climate Change

About a decade ago, the FOA developed tools to measure food insecurity and vulnerability. More than measuring progress in the realization of the *right* to food as the IBSA Procedure does (see below), the FIVIMS initiative primarily seeks to promote a better understanding of the occurrence and nature of food insecurity and its causes.¹⁹⁰ The causes of food insecurity and vulnerability are numerous

¹⁸⁹ P. Hunt, “State Obligations, Indicators, Benchmarks, and the Right to Education,” in *Human Rights Law and Practice*, vol. 4, no. 2 (1998), pp. 109, 115.

¹⁹⁰ For more information, see FAO, *Making FIVIMS Work for You – Tips and Tools*, available at <http://www.fivims.org>

FIVIMS Conceptual Framework



Source: FAO and FIVIMS, *FIVIMS Framework: linkages between the overall development context, the food economy, households, and individual measures of well-being*, see <http://www.fivims.org>

and complex; but one could see climate change as being one of the structural, chronic factors.

The FIVIMS Initiative has recognized that the climate prevailing in a country is indeed an influencing factor. (See Chart of FIVIMS indicators.) However, climate is not necessarily perceived as a dynamic variable in itself; that is, it is not guaranteed that climate *change* is adequately being taken into account.¹⁹¹ In past FIVIMS reports, a general assessment of which stake climate change has in increased (or in some instances, decreased) food security is lacking. (See Chart on environmental data used in FIVIMS.) The most relevant study conducted in the context of FIVIMS was about ways through which farmers could be paid for delivering environmental services – including services that would mitigate climate change.¹⁹² The inverse perspective however – how the environment could negatively impact the work of farmers – has been less prominent.

A more structural problem in capturing climate change as a cause of food insecurity is that the factors assessed under FIVIMS are all national or subna-

¹⁹¹ When analyzing the environmental factors and their impact on food security, the FAO suggests using available international data that is not updated on a regular basis and that, moreover, tends to focus on average conditions (e.g., percentage of arable land, overall energy use in agriculture, etc.) rather than identifying regions that are particularly vulnerable in terms of environmental harm. Identifying vulnerable groups relies more on qualitative research methods (surveys, interviews); links to causes such as environmental harm may disappear at that level of the analysis.

¹⁹² FAO, *The State of Food and Agriculture 2007 – Paying Farmers for Environmental Services*.

FIVIMS – Environmental Data Used to Assess Food Security

Indicator	FIVIMS-related indicators				UN-system lists		Data availability (incl. main institutional source)
	CFS	FAO-Secretariat	ANDI	Asia KIDS	OECD IDGs	UN/CCA	
Environmental Conditions							
Arable land per person		X				X	1998 (FAO)
Average annual rate of deforestation		X					varying years (WRI) ¹
Carbon dioxide emissions per person					X	X	1996 (WB)
Carrying capacity of land		X					2000 (FAO/IASA)
Countries with environmental strategies (%)					X		1997 (WRI)
Intensity of freshwater use from renewable internal sources		X			X		varying years (FAO) ¹
Energy use in agriculture		X					varying years (FAO) ¹
Forest area as % of total land area					X		1995 (WB)
GDP per unit of energy use					X	X	(*)
Land area protected as % of total arable land					X		1996 (WB/FAO)
Mangrove areas					X	X	(*)
Percentage of change in km ² of forest land in the past ten years						X	most recent year (FAO)
Severely degraded land as % of total area		X					FAO
Tree density outside forest		X					(*)
Total human induced soil degradation		X					varying years (UNEP, ISIRI, FAO) ¹
Urban air pollution					X		1995 (WB)
Risks, Hazards, Shocks							
National monthly rainfall index		X					varying years (FAO) ¹
Number of countries facing food emergencies	X						most recent year (FAO)
Land use change		X					1997 (WB)
Percentage of population affected by droughts and natural disasters		X		X			varying years (CRED) ¹
Percentage of land with erosion risk		X					varying years (USGS) ¹
Rate of deforestation		X					varying years (FAO) ¹

Source: FIVIMS, *Tips and Tools, Making FIVIMS Work for You*, pp. 6–7

tional (national political conditions, national economic practices, etc.), not international ones.¹⁹³ Consequently, global factors that affect food security such as global warming are unlikely to be uncovered through country-level food-security assessments.¹⁹⁴

The FIVIMS Initiative and other food vulnerability assessments could remedy the information gap on climate change impacts by incorporating information gathered by climate change institutions. It would, for instance, be useful to research how data from the IPCC and from national communications could be integrated in food vulnerability and insecurity mapping.

¹⁹³ FAO, *Making FIVIMS Work for You – Tips and Tools*.

¹⁹⁴ This is because the FAO has developed a tool to identify imminent food shortages by monitoring global food demands and supplies under its Global Information and Early Warning System.

Indicators, Benchmarks, Scoping, Assessment

The recently launched IBSA Procedure builds on FIVIMS but goes beyond the mere identification of food availability, accessibility, adequacy, and sustainability as with FIVIMS. The IBSA Procedure should allow for better monitoring of the realization of the right to food, which includes questions of food security outcomes but also of processes and structural factors influencing the right to food. It operates on the basis of a participatory scheme involving state parties, civil society actors, specialized agencies, and the Committee on Economic, Social and Cultural Rights, which has agreed to road-test the procedure. Since the first wave of results will not be available until 2012, it is difficult to assess whether the Procedure would adequately catch climate change harm. However, looking into the design of the IBSA Procedure itself may already provide some guidance.

Different Steps of the IBSA Procedure

The IBSA process involves four distinct, crucial steps. First, right to food indicators are defined, in close cooperation with state parties, NGOs, and relevant specialized agencies. Second, state parties set specific national benchmark, allowing, for example, for differentiation across regions depending upon levels of development. In a third phase, scoping, the Committee discusses those benchmarks with the State Party to arrive at a consensus about them. Finally, the Committee makes a final critical assessment at the end of the process.

Source: Eibe Riedel, “The IBSA Procedure as a Tool of Human Rights Monitoring,” pp. 64–65

The Procedure outlines a set of 37 specific food-related indicators, comprising outcome indicators, structural indicators (structures of power, institutional, and policy frameworks, administration, institutions, legislations), and process indicators (participation, transparency, accountability). The indicators do include various requirements for states to report on issues that may indirectly catch some climate change-related harm. This includes certain outcome indicators on starvation and malnutrition (Indicators 1–4), the percentage of population lacking access to productive resources (Indicator 6), and the proportion of the population without sustainable access to an improved water source (Indicator 9), as well as structural indicators such as the number of programs for disaster management (Indicator 18), and the institutional protection and enhancement of access to productive resources and assets (Indicator 20).

Unfortunately, however, the indicators prescribed by the IBSA Procedure are silent on the link between decreasing food security (i.e., negative outcome indicators) and changing climatic conditions or climate change policies. To give but one example, they do not allow for determining whether an increasing lack

of access to productive resources or water supplies is a result of climate change or of climate change mitigation measures benefiting from land and water that were previously used for the production of food crops. As with the FIVIMS Initiative, IBSA data are relatively static, and none of them originates from climate change institutions.

The combination of the possible widespread severity of climate change-related food harm (outcome), coupled with the high levels of institutional coordination required to adequately tackle climate change-related food harm (structural), may require additional sets of indicators to guarantee adequate recognition of the interdependencies between climate change and the right to adequate food.

3.4 Accountability for Violations: Litigation

Judicial remedies are not the silver bullet solution that climate change needs: while they are of utmost importance for the individual victims affected by drought, flooding, or extreme weather events, judicial remedies will not help address the root causes of a problem that affects hundreds of thousand of people at once – a problem that requires policy changes at all levels rather than case-by-case solutions.¹⁹⁵

Yet, allowing climate change victims to seek redress is crucial, since it is the ultimate recognition that climate change *is* a human rights issue. It raises awareness about the individual, human impacts of climate change, and about the increasing vulnerability of already vulnerable populations. In addition to fostering a more human look at the victims, judicial remedies are also important for focusing attention on the perpetrators. These lawsuits raise the question of attributing responsibility, and holding accountable those who can best address the causes of climate change.

Major obstacles have to be overcome in order to effectively challenge the impact of climate change on human rights in general and the right to food in particular. Individual petitions often give rise to challenges of justiciability, standing and status of victims, identifying responsibilities, and establishing the causal links between the human rights violation and climate change. This section describes these challenges and analyzes a number of cases that could show how they can be overcome.

3.4.1 Admissibility of Petitions Relating to the Right to a Healthy Environment and the Right to Food

A first set of obstacles is the admissibility of petitions relating to the right to food and the right to a healthy environment at the international level. The justiciability

¹⁹⁵ Oxfam, “Climate Wrongs and Human Rights: Putting People at the Heart of CC Policy,” Briefing Paper 117 (2008), p. 9.

of the latter is a challenge, given the lack of universal recognition of such a right and of a global body to monitor or adjudicate it. As noted earlier, however, there is a general recognition that a healthy environment is crucial for the protection of (other) human rights (section 3.1). Consequently, the lack of explicit endorsement of a *right* to a healthy environment will arguably not be the major legal obstacle in bringing a successful claim.

As for the right to food, the UN General Assembly recently adopted an additional Protocol to the ICESCR, enabling the Committee on Economic, Social and Cultural Rights to receive individual petitions against states that ratified the Protocol.¹⁹⁶ While no state has ratified the Protocol yet, it illustrates the emerging consensus that the right to food is a justiciable right. Some of the regional treaties and many domestic constitutions already mentioned the right to food earlier on, leading to a number of successful cases at the regional and domestic level. The Committee on Economic, Social and Cultural Rights cannot receive interstate complaints. States that want to press their peers to respect transnational human rights obligations – such as duty to cooperation for the protection of the right to food through climate change adaptation funding or technology transfer – will not be able to stand before the ESCR Committee.

The Human Rights Committee, interpreting and monitoring the implementation of the International Covenant on Civil and Political Rights (ICCPR), can receive petitions from individuals for the 111 parties to the first optional Protocol to the ICCPR. Such petitions could be successful in addressing a right to food violation if they relate to one of the civil and political rights of the ICCPR, such as the right to life. The ICCPR also contains an open discrimination clause (Article 26), which should allow the Human Rights Committee to deal with discriminatory practices in the protection against climate-induced food insecurity. Contrary to the ESCR Committee, the Human Rights Committee can also receive interstate complaints. However, international cooperation obligations and extraterritorial obligations are less far-reaching under the ICCPR than under the ICESCR, so that interstate complaints about human rights violations resulting from climate change may be more successful when they deal with actual harm domestically rather than the lack of international cooperation to prevent such harm.¹⁹⁷

In the Inuit petition analyzed in chapter 2, petitioners demonstrated how current human rights provisions could be used in climate change litigation, including for impacts on the right to food.

196 ICESCR Optional Protocol, adopted by UN Res A/RES/63/117 on Dec. 10, 2008.

197 Moreover, no such interstate complaint has been filed yet because of political considerations. While this need not preempt future complaints, it may make states more reluctant to take the initiative.

Inuit Petition: Illustration of Flexibility of Human Rights Provisions

The petition of the Inuit people before the Inter-American Commission for Human Rights addressed violations resulting from melting ice sheets and similar related climate change effects at the North Pole. The petitioners did not rely explicitly on the right to a healthy environment for their claims, but stressed for each asserted affected human right the recognition by human rights bodies that the environment is crucial for the promotion and protection of human rights, in line with the ICJ opinion on the *Legality of the Threat or Use of Nuclear Weapons*. As for the claims regarding right to food, the petitioners primarily relied on “the Inuit’s rights to their own means of subsistence.” Such a right is based not only on the American Declaration but also on the ICCPR – explicitly ratified by the United States – which stipulates that “in no case may a people be deprived of its own means of subsistence.” Food was asserted in the petition as a crucial aspect of the Inuit’s right to life:

“The U.S. Congress has acknowledged that, for many Inuit, ‘no practical alternative means are available to replace the food supplies and other items gathered from fish and wildlife which supply rural residents dependent on subsistence uses.’ Damage to the Inuit’s subsistence harvest violates their right to life.”

Source: based on Inuit petition; quotation on p. 91

3.4.2 Victims, Perpetrators, and Causation

In judicial systems where both environmental harm and the right to food receive due recognition, other obstacles arise. They relate to the disparity of both polluters and climate change victims, and how to establish a causal link between the actions of the former and the suffering of the latter. Based on some case analyses, this section identifies gaps but also potential solutions. It paves the way for recommendations to overcome problems of standing, accountability, and causality in the last section of this report.

Multiple Present and Future Victims: The Problem of Standing

Climate change harm is likely to affect entire groups of people at once rather than a single victim. Moreover, many of the climate change effects will occur in the future, even though their causes are happening now. Also, as vulnerable populations risk being disproportionately affected, those groups will also have most difficulties in getting access to remedies.

To effectively bring a case to court, climate change victims would benefit from standing provisions that allow for collective claims, for example in the form of class actions as authorized before the United States federal courts or the *actio popularis* before Indian courts. In that respect, some of the international human rights treaties impose major constraints for successful claims, since their standing provisions (as currently interpreted) are very narrow. The ICCPR and the European Convention on Human Rights require that petitioners be individually and directly affected. Thus, while a number of individuals can join their claims in one single petition, and while these institutions' decisions de facto often reach well beyond the individual case, victims may only file such a petition if they have themselves been prejudiced.

No petition will be accepted for future violations either, unless they are imminent and certain.¹⁹⁸ In comparison, the Inter-American and African systems go further in granting standing to entities that are not individual victims themselves, making it possible for nongovernmental (human rights / environmental) organizations to file claims in the name of alleged victims.¹⁹⁹ As such, the notion of victim is also broader than that of the ICCPR or European Court of Human Rights (more likely to accept a potential violation, indirect victims, etc.).

Here again, the Inuit petition is illustrative. Main petitioner Ms. Sheila Watt-Clouttier, chair of the Inuit Circumpolar Conference, acted on behalf of "all Inuit of the Arctic regions of the United States and Canada who have been affected by the impacts of climate change," including 62 other named individuals.²⁰⁰ She also stressed the particular vulnerability of specific populations: "nowhere on Earth has global warming had a more severe impact than the Arctic."²⁰¹ Another case in point is the Ogoni petition before the African Commission on Human and Peoples' Rights, brought by two non-profit organizations against Nigeria. The African Commission "thank[ed] the two human rights NGOs who brought the matter [of harmful oil exploitation and military oppression] under its purview ... Such is a demonstration of the usefulness to the Commission and individuals of *actio popularis*, which is wisely allowed under the African Charter."²⁰²

198 ECtHR, *Klass v. Germany* (1978), §33–4.

199 See Article 44 ACHR and Article 56 AfCHPR.

200 IAComHR, Inuit petition, p. 1.

201 IAComHR, Inuit petition introduction and pp. 33–4.

202 *African Commission on Human and Peoples' Rights; Social and Economic Rights Action Center; and The Center for Economic and Social Rights v. Nigeria*, Communication 155/96, May 27, 2002, available at <http://cesr.org/downloads/AfricanCommissionDecision.pdf>

Public Interest Litigation: Challenging Bangladesh's Flood Control Plan

In Bangladesh, the country's Supreme Court recognized a broad standing right for citizens and local NGOs in a case relating to climate change adaptation measures. The Bangladesh Environmental Lawyers Association had filed a petition on behalf of residents of the Tangail District, whose lives, livelihoods, and environmental security were being seriously threatened by the implementation of a flood control plan. The Supreme Court of Bangladesh agreed with the plaintiff that the expression "any person aggrieved" in the Bangladeshi Constitution extended to the people in general, as a collective and consolidated personage. The Court found that the plaintiff defended a bona fide cause for the fundamental rights of an indeterminate number of people in respect of a subject matter of great public concern. This case illustrates how broad understandings of standing cannot only be relevant for right to food harm resulting from climate change, but also for preventing dangerous and ill-considered adaptation measures such as flood control plans.

Source: United Nations, see <http://www.unescap.org/drpad/vc/document/compendium/bgl.htm>

The problem of future victims takes the challenge one step further. Here, the *Awas Tingni* case before the Inter-American Commission and Court may illustrate how the time gap could be bridged. The *Awas Tingni* community had traditionally lived in a vast rainforest until the Nicaraguan government granted a logging license to a timber company for the area where the community was settled. Interestingly, both the Inter-American Commission, and at a later stage the Court, found that the logging permit not only violated social and economic rights of the present *Awas Tingni* community but also was likely to cause harm to its *future generations*.²⁰³ This and other cases (see box *Standing for Future Generations: Oposa v. Factoran* case in the Philippines) may indicate that, for climate change cases, a delay between the present harm and the future human rights violations will not necessarily be rejected in the Inter-American human rights system.²⁰⁴

²⁰³ Inter-American Court on Human Rights, *Awas Tingni* case, §149.

²⁰⁴ M. Doelle, "Climate Change and Human Rights: The Role of The International Human Rights in Motivating States to Take Climate Change Seriously," in 1 *Macquarie J. Int'l & Comp. Env't. L.* (2004), pp. 179, 202.

Standing for Future Generations: Philippines, *Oposa v. Factoran*

In a Philippine case regarding massive deforestation plans (*Oposa v. Factoran*), the Court examined *ex officio* whether the case, a class action suit, was compatible with national standing legislation. The Court held that it was, saying, “the subject matter of the complaint is of common and general interest not just to several, but to all citizens of the Philippines ... Petitioner minors assert that they represent their generation as well as generations yet unborn. We find no difficulty in ruling that they can, for themselves, for others of their generation and for the succeeding generations, file a class suit. Their personality to sue in behalf of the succeeding generations can only be based on the concept of intergenerational responsibility insofar as the right to a balanced and healthful ecology is concerned.”

Source: Supreme Court of the Philippines, *Oposa et al. v. Fulgencio S. Factoran et al.* [July 30, 1993], available at <http://www.elaw.org/node/1343>, pp. 10–11

Multiple Perpetrators and the Problem of Accountability

Not only are victims manifold, “perpetrators” – those contributing to climate change – are equally omnipresent. The paradox of the many hands is particularly relevant for the problem of climate change: the “greater the number of States that have contributed to creating a situation that leads to violations of the right to food, the more difficult it becomes to assign responsibility to each of the States concerned for the situation thus created.”²⁰⁵

In traditional environmental harm cases, the perpetrator is most often clearly identifiable, such as when a power plant pollutes the direct environment. But with climate change being a more diffuse and widespread phenomenon, it is difficult to isolate the perpetrator of human rights abuses resulting from its effects. Still, not everyone contributes to climate change at the same rate, and pollution does not just affect the main polluters’ direct surroundings. Consequently, effective ways should be found to hold those that pollute as the most accountable. The market-based mechanism of carbon trade partly follows this principle, known as the “polluter pays” principle.

A legal-technical solution is to simplify accountability by aggregating entities that disproportionately contribute to climate change and hold them accountable as a whole. This solution is actually embedded in the current international judicial system itself: since the enforcement of international human rights law is heavily state-centered at the international level, the entity most likely to be held *accountable* for human rights violations is the aggregated state, whether the

²⁰⁵ UNGA, Report of the Special Rapporteur on the Right to Food, UN Doc A/63/278 of Aug. 13, 2008, §13.

actual perpetrator *responsible* for the human rights violation is a public actor or not.²⁰⁶

Consequently, particularly polluting states or regions, like the United States or the European Union, could be sued if they fail to take necessary mitigation and adaptation measures to reduce the harmful impact of their GHG emissions domestically and abroad. In the Inuit case before the Inter-American Commission, the Inuit specifically filed their petition against the United States because it is, taken as a whole, “the world’s largest emitter of greenhouse gases, and thus bears the greatest responsibility among nations for causing global warming.”²⁰⁷ The possibility of interstate litigation in many of the international human rights institutions could bring an aggregated body of victims (e.g., the population of a small island state, represented by its government) to file a petition against an aggregation of perpetrators (e.g., a country that disproportionately contributes to climate change).

Even internally, the state could aggregate particularly polluting sectors to simplify the attribution of responsibilities. The *Fuel Retailers* case before the South African Constitutional Court is a good illustration of this. Fuel retailers had obstructed a permit the environmental authorities had granted for a new fuel-filling station in Mpumalanga Province, invoking the adverse impact on the environment of the additional license.²⁰⁸ The Court struck down the decision of the environmental authorities for not having adequately considered the environmental and social impacts of the *proliferation* of additional gas filling stations.²⁰⁹

The Challenge of Causality

A final question, much related to the previous one, is which causal relations should be proven to attribute responsibility for human rights violations resulting from climate change. Imagine that a state fails to protect the right to food because it has not implemented an adequate anti-desertification policy. Not only may it be difficult to prove that the right to food violation was a result of desertification, it may be even more difficult to prove that the actual desertification is caused by climate change *and* that the state could have adapted on its own to that desertification so as to prevent the human rights violation. To what extent is it possible to prove that a human rights violation is directly the result of climate change?

206 An attempt to break the state-centric character of international law for the specific case of the right to adequate food is made in S. Narula, “The Right to Food: Holding Global Actors Accountable Under International Law,” NYU CHRGI Working Paper, which deals with violations by non-state actors such as TNCs and IFIs.

207 IAComHR, Inuit petition.

208 *Constitutional Court of South Africa, Fuel Retailers Association of Southern Africa v. Director General Environmental Management, Department of Agriculture, Conservation and Environment Mpumalanga Province and Others*, Case CCT 67/07, June 7, 2007.

209 Justice Sachs, who agreed with the substance of the reasoning and the balancing approach, was the only one to dismiss the case, arguing that environmental law is meant to protect the environment and not the interests of other petrol stations.

Polluting Locally, Polluting Globally: Gas Flaring, Nigeria

Gas flaring is the process of burning unwanted gases from various oil production processes like methane to keep crude oil pure. The practice occurs on a vast scale in the Niger Delta. Nigerian courts ordered Shell to stop the activity of gas flaring at its wells in the Niger Delta, both because it created high levels of pollution in the surrounding environment, and because it caused as many greenhouse gas emissions as all the other emissions coming from sub-Saharan Africa combined. It was enough for the Court that the practice was creating a future harm – the fact that climate change resulting from gas flaring will bring about an unclean, unhealthy, or unsafe environment was sufficient for the Court to order an end to the practice entirely.

Source: www.climatelaw.org – Cases – Nigeria: Gas Flaring

In cases where environmental harm has been recognized as the origin of a human rights violation, the polluting source was often literally close to the victim of the violation.²¹⁰ One solution to overcome the causality problem – at least as an advocacy strategy – could be to target those actions that not only contribute to climate change in general but that also cause concrete nuisance on the direct environment. The gas-flaring case in Nigeria is such an example. Not only does this practice cause massive GHG emissions and therefore climate change, it is also detrimental to the living conditions of the people living nearby the exploration sites in the Niger Delta. Likewise, the *Awes Tingni* and the *Oposa v. Factoran* cases challenging mass-scale deforestation were not only important in preventing direct human rights abuses; preserving forests also slows down the effects of GHG emissions and therefore benefit future generations.

Challenging the Root Causes of Climate Change: Deforestation, Philippines

Another example of the link between present environmentally sensitive activities and harm to unborn generations is the landmark decision of the Supreme Court of the Philippines in 1993 in the *Oposa v. Factoran* case, mentioned above. The claim targeted the government's approval of deforestation practices and was based on "the right to a balanced and health-

²¹⁰ In the leading European environmental harm case, *Lopez-Ostra*, for instance, polluting fumes, smells, and contamination came from a malfunctioning leather factory built with governmental subsidies 12 meters from plaintiff's home. ECtHR, *Lopez-Ostra v. Spain*, December 9, 1994.

ful ecology” as found in the Constitution of the Philippines. Prospective environmental damage resulting from mass-scale deforestation of the Philippine islands included “salinization of the water table,” “massive erosion and the consequential loss of soil fertility and agricultural productivity,” “recurrent spells of drought,” and “the reduction of the earth’s capacity to process carbon dioxide gases which has led to perplexing and catastrophic climatic changes such as the phenomenon of global warming, otherwise known as the ‘greenhouse effect.’” The Court granted the plaintiffs relief, both for their claims about the harm facing children growing up in the forest region at the time, and the more drastic harms facing future generations.

Sources: Supreme Court of the Philippines, *Oposa et al. v. Fulgencio S. Factoran et al.* [July 30, 1993], available at <http://www.elaw.org/node/1343>, quote on p. 12; UNFCCC, *Climate Change: Impacts, Vulnerabilities and Adaptation in Developing Countries*, pp. 18–28, available at <http://unfccc.int/resource/docs/publications/impacts.pdf>

In addition, under international human rights law, the state is accountable not only for its own harmful actions, but also for actions of other actors it did not adequately try to prevent (see above). Since the state has a duty to protect human rights against actions from third parties, it has an interest in more strictly controlling actors operating within its borders to avoid that its own responsibility be put at risk. In some emergency situations, positive state obligations can become even more far-reaching. In cases of natural disasters, for instance, the state may be required to provide emergency relief to avoid malnutrition or epidemics. Natural disasters will become more frequent and more violent as a result of climate change, including major droughts in Africa but also more frequent Hurricane Katrinas and fires in Australian and Portuguese forests. In those cases, the root cause – climate change – will not necessarily have to be proven in a lawsuit in order for there to be remedies; the obligations of states will arise automatically.

Positive Duties to Remedy Famine in Times of Severe Drought

A landmark case on right to food violations in India illustrates how the state can be held accountable for not protecting its people from starving. The impoverished communities in the state of Rajasthan were starving to death while there was plenty of food available in a Public Distribution Center only a few kilometers away. The Indian Constitution implicitly provides for the right to food in two different sections: Article 47 establishes the duty of the state to raise the level of nutrition and standard of living in order to improve public health as a “directive principle of state policy” rather than a fundamental right, and Article 21 guarantees the right to life. The Indian Supreme

Court interpreted the latter provision as including both an implied right to food and a right to a clean environment. It found that the state failed to protect its population from starving by not releasing readily available food.

India's poor already face threats to their survival and their ability to access food, which will be further exacerbated by climate change. In 150 of the country's poorest districts, drought is a constant problem. India's long coastline is threatened by unexpected natural calamities. For this reason, India's government has taken a strong stand on climate change in the past. However, the biggest challenge for civil society groups in India is persuading the government to take stronger steps to fix the problem on a domestic level. Increased litigation regarding the government's failure to protect people from starvation may well be a tool to force bolder action both in international climate change negotiations and in addressing impacts domestically.

Sources: Supreme Court of India, Civil Original Jurisdiction, Writ Petition # 196 [2001], Golay, p. 131; Articles 21 and 47 of the Indian Constitution; Angel Green and Rubens Born, *China, India and Brazil: Activists Debate Climate Change* [2005]

Conclusion: Potential Flood of Climate Change-related Human Rights Cases

The evermore pervasive effects of climate change make it probable that the climate change-related human rights caseload will become important and diverse.

First, there will be a line of cases in which citizens of a given state – a collective of farmers who have lost their land due to droughts or fishermen who see their fish disappear because of acidification of the ocean – will blame their own state for their lack of action, both nationally and in terms of international advocacy against climate change (individual vs. own state). As climate change will affect every country, every country (both developed and developing) could face such claims at the national level, which could in turn serve as an incentive to act internationally. This could foster pressure from within to act more swiftly at the international level.

Then there will be litigation initiated by individuals residing in state A against others in state B. Obstacles ahead could be the exhaustion of local remedies, the concept of “jurisdiction” (in spite of extraterritorial obligations that are more clear for the ESCR Committee), etc. This is partly the path followed in the Inuit case, which was directed against the United States by both US and Canadian Inuit among others.

Finally, countries that are truly unable to influence the international process as they wish and that are more victim than perpetrator should take the lead in international litigation (state vs. state) to clarify obligations in terms of climate change policy at the highest level.

3.5 Case Study on the Powers and Influence of Non-State Actors: the World Bank Group and Other International Financial Institutions

The monitoring and accountability tools assessed above are mostly state-centric. If human rights institutions have lagged so far in helping states deal with human rights challenges of climate change, they have even less done so with regard to non-state actors. The case study on the influence of the International Financial Institutions (IFIs) shows that further attention for the role of non-state actors in the field of climate change and human rights would be justified.

The IFIs – including the members of the World Bank Group (WBG), regional development banks, and the International Monetary Fund (IMF) and export credit agencies – exercise tremendous influence on how the international community, individual states, and private corporations will respond to climate change.²¹¹ The World Bank (WB), for example, exercises influence directly by supporting public and private investments in everything from government capacity to electricity production. Together with the IMF, it exercises indirect influence through technical cooperation, promotion of particular development paradigms, and oversight of government budgets, particularly in the poorest countries. Moreover, the WB has a mandate to manage specific funds related to climate change.

For a number of years, the WBG has been implicated in worldwide debates that challenge its role in areas directly related to the themes of this report, including hydrocarbon development, energy production, and the environment in general. The WB has devoted increasing attention to environmental issues, has initiated major independent studies of its investments in the extractive sector and the energy sectors, and, through the Independent Evaluation Group (IEG), has acknowledged vast failures in assisting African agriculture since the Cold War.²¹²

While advocates acknowledge the importance of these initiatives for expanding debate and opening the WB to consideration of important social

211 The World Bank Group is composed of five associated agencies, including the International Bank for Reconstruction and Development and the International Development Association – which, inter alia, lend to governments – and the International Finance Corporation, which lends to private investors. The regional development banks are closely associated but independent of the WBG. The IMF, which is not discussed in detail in this report, is particularly important to macroeconomic policy of developing states. Export Credit Agencies are another source of public finance that is often closely linked to WBG funding. These institutions do not, of course, act as a single entity. At times, divergences have, for example, pitted the WB against the IMF, or even led to differences within the WBG. Export Credit Agencies lend to national exporters in the developed world. Despite differences, however, the institutions have collaborated closely and followed a common arc, which can be summarized in the “Washington Consensus” that defined development policy in broad outline and a series of specific practices in the post-Cold War era.

212 See, e.g., *World Commission on Dams* (2000), *Extractive Industry Review* (2004), and *The World Bank’s Assistance to Agriculture in Sub-Saharan Africa: An IEG Review* (2008).

impacts, the overall effect on the WB's lending is widely contested. The WB did not, for example, accept the recommendations of the Extractive Industry Review to discontinue investment in coal and coal-fired plants that were not carbon neutral. A recent report by the Environmental Defense Fund found that the WB (together with other public investors) had funded 88 new and expanded coal plants since 1994, which, when completed, would produce "more than 77% of current emissions for coal-fired power in the entire European Union."²¹³ In addition, according to the Bank Information Center, WBG lending for fossil fuel extraction increased to nearly USD 4 billion in 2008, a nearly three-fold increase from 2005.

As the IEG noted in 2008, the challenges of climate change go to the heart of the development paradigm that the WB has been pursuing throughout its history. Under the finding "Development spurs emissions," the IEG noted: "A 1% increase in per capita income induces – on average and with exceptions – a 1% increase in GHG emissions. Hence, to the extent that the World Bank is successful in supporting broad-based growth, it will aggravate climate change."²¹⁴

The IEG also criticized the WB for failing to have "an explicit corporate strategy on climate change against which evaluation assessments could be made." This was remedied in part with "Development and Climate Change: A Strategic Framework for the World Bank Group," also issued in 2008. The Strategic Framework identifies – but does not resolve – some of the challenges for the WB, whose core mandate is to support growth and overcome poverty. It proposes a limited number of new initiatives and "six areas for action," including support for country-led processes, mobilizing of "concessional and innovative finance," leveraging of private-sector and market-based financing, accelerating deployment of new technologies, and increasing research and sharing of information. It stresses that "adaptation" will be at the center of its support to developing countries. But, noting that "[p]ractical experience with reconciling development and climate is still very limited and skewed towards mitigation, mainly in energy," the Framework emphasizes learning and capacity-building for the next three years.

The WB's major additional funding commitment is in the form of the Climate Investment Funds. The WB currently has about USD 6 billion divided between two funds: the Clean Technology Fund and the Strategic Climate Fund, governed by a trust fund committee composed of an equal number of donor and recipient countries. The Clean Technology Fund is strictly limited to "low carbon" energy projects or technologies. The Strategic Climate Fund is intended to support broader national efforts, for example, the Pilot Program for Climate Resilience

²¹³ B. Rich, *Foreclosing the Future: Coal, Climate and Public International Finance* (Environmental Defense Fund: 2009).

²¹⁴ IEG, *Climate Change and the World Bank Group*, pp. v-vi (2008).

(which replaces the Adaptation Pilot Fund), which is intended to provide national support to make development more climate-resilient.²¹⁵

Much of the focus of the WB's Strategic Framework is consistent with the concerns of human rights and environmental advocates: it stresses the need for international cooperation and "working with partners," including collaborative relationships in developing countries, active participation in UN mechanisms, and "scale(d)-up" work with civil society "at the international, national and community levels." It stresses the focus on "inequality and development implications of climate change rather than global environmental outcomes...." And, beyond mere collaboration, it asserts the WBG's adherence to the "principles, policies and directions of the UNFCCC process."

But there are a number of reasons for concern about the WB's approach, primarily because it defines a separate path that does not clearly distinguish itself from past practice or open itself to new influences. The Framework scrupulously avoids reference to any human rights obligations, human rights mechanisms, or rights-based tools for achieving its goals.²¹⁶ The Framework does not identify problems with any past practices. And it does not note the problems of unequal or differential impact within any country. Moreover, as critics have noted, despite the "adherence" to the UNFCCC process, the WB has created parallel funding mechanisms that can weaken the UNFCCC process.²¹⁷ At this early stage, it may be difficult to know whether the Strategic Plan represents the emergence of some positive elements in a new direction or a holding pattern.

3.6 Conclusion

The human rights regime has an untapped potential for dealing with climate change harm. Human rights norms are generally flexible enough to guide state behavior in light of new climate change challenges; current commitments already require states to deal with climate change in a different (more swift and

²¹⁵ See Halifax Initiative, Issue Brief: *The World Bank, Climate Change and Energy* (Oct. 2008).

²¹⁶ In the case of the Bank, the absence of any reference to human rights is consistent with a long-standing resistance that is supported by many of its members.

²¹⁷ "The World Bank's Climate Investment Funds are external to the UNFCCC process. Ironically, while the Bank was originally asked to act as a 'global mediator on climate change' and bridge the differences between developed and emerging economies, it is now actively undermining discussions. Having a sizeable investment fund operating outside of the UNFCCC undermines ongoing UN negotiations on financing mechanisms. It also draws financial support away from already established funding mechanisms within the UNFCCC, like the Adaptation Fund set up in Bali in December 2007. Developing countries under the G77 (the largest intergovernmental organization of developing countries in the UN) and China have criticized the Bank for superseding this democratic process, and insisted that financing channeled outside the UN process would not count toward existing industrial country obligations to provide new and additional support for mitigation and adaptation." Halifax Initiative Brief, available at <http://www.halifaxinitiative.org/index.php/Factsheets/1116> (last viewed Aug. 10, 2009).

at the same time more human) way than they do now. Human rights institutions could, but have not yet deployed the tools at their disposal to foster more rights-compatible policies.

A first step would be to recognize climate change as a human rights issue. The refusal so far to deal with the Inuit petition is emblematic: it illustrates the reluctance of the human rights regime to take on the challenge of climate change. Likewise, nongovernmental human rights organizations – daunted by the technicalities of the climate change regime or failing to see causal links between climate change and human harm – have to a large extent refrained from engaging in a policy area that deserves their attention at the macro-level (e.g., COP negotiations, in the Nairobi Work Program, etc.) and the micro-level (design of local adaptation programs and implementation of mitigation projects).

A second step is using and fine-tuning human rights tools to monitor state policies. General food policies should be reviewed for their capacities to cope with expected climatic changes. For climate change policies (mitigation and adaptation), the tools could be used to verify whether food implications have been duly taken into account. Moreover, they not only allow for measuring food security outcomes; they could also highlight the need to provide information to those most likely to be affected and to have them participate in policy planning.

A third step is to facilitate the access and use of human rights accountability mechanisms. It could do so in three fields: human rights violations resulting from climate change that could not be prevented, in which the state is required to remedy the violations *ex post*; the lack of adequate adaptation measures in which the state might have failed to deploy all reasonable measures to build resilience against climate change; and the lack of adequate mitigation (e.g., deforestation), in which case the state has failed to avoid future harm, or where mitigation measures themselves have an adverse impact on human welfare.

4.0 Moving Forward – Recommendations

This report rests firmly on the assumption that “progress” in addressing the problems of climate change cannot happen at the expense of the right to food, nor is there any reason it should. The goals of climate change law and policy resonate deeply with those of human rights, even when they do not adopt its language. The impact of climate change on food security – with particular attention to the differential impacts on vulnerable groups – is becoming increasingly clear to all actors in the climate change struggle, as are the implications of mitigation and adaptation policies. Issues of food and climate change are obviously intertwined.

The “right to food” may not be the preferred language for addressing the problems from within the climate change regime. But it is easy to see how violations of the right to food – for example, policies that did not protect access to food, that exacerbated the food insecurity of vulnerable groups, or that facilitated actions by states or private actors to exploit those insecurities – would constitute failures for the climate change regime. Even the failure to promote positive measures to enable those affected by climate change to adapt would be viewed as a failure.

While the absence of human rights language – or even more affirmatively, human rights mandates – in the climate change regime sounds a cautionary note, it does not diminish the legal obligations of human rights. Nor does it prevent the institutions that are critical for implementing human rights and the right to food from playing an active role. All of this is happening to some degree as, for example, the Office of the High Commissioner for Human Rights (UNOHCHR) and the Food and Agriculture Organization (FAO) increase their engagement in climate change issues.

In reality, however, this process is at an early stage, and the absence of human rights language and mandates makes the task harder. At best, it highlights the absence of an agreed roadmap for harmonizing the two legal regimes or integrating human rights into the climate change analysis. At worst, it signals resistance. In the interim, the climate change regime produces responses that are in tension – if not outright contradiction – with the right to food.

This chapter proposes tools for filling the gaps and ensuring a more meaningful engagement of the right to food with climate change. The following section elaborates on the intersecting legal obligations of climate change and

human rights, stressing the need for an active effort to harmonize those obligations. While this report has avoided a narrow, legalistic approach to human rights, it is important to recall the international legal context in which the regimes are developing. It is also valuable to draw lessons from other fields of law that have struggled with similar problems of “fragmentation.” The concluding sections are devoted to specific recommendations.

The overarching goal of the recommendations in this chapter is to fill the gaps between the two regimes with a sustained process that can respond to issues as they arise, as well as to propose solutions for problems produced by inattention to rights in the past. The recommendations are intended as options for achieving this goal, but they are variations of elements critical to filling the human rights gap:

- systematic collection of information that will enable a disaggregated human rights analysis at every stage, in regard to both the impact of climate change and the implications of measures in mitigation and adaptation;
- institutions and individuals mandated to systematically analyze the data in light of human rights and the right to food, vet the relevant proposals, and seek remedies wherever possible; and
- a forum for resolving challenges raised by human rights and the right to food in particular.

These are what some would call “governance” solutions, intended to ensure that human rights concerns will be voiced and heard in settings where decisions can be made. Without these elements, human rights will never be more than an afterthought in the process.

4.1 From Fragmentation to Systemic Integration of Human Rights and Climate Change Law

In the emergence of specialized fields of international law, it is not unusual for one evolving field to overlook or ignore another. Environmental specialists are not trained in human rights, nor are human rights specialists familiar with the complexities of environmental matters. But under general principles of international law, the rules that emerge should be read for consistency and interpreted as harmonious.²¹⁸

This is not always an obvious process. Even in fields of law as similar as human rights and humanitarian law, there are uncertainties about delimiting the application of the law and resolving apparent conflicts. But the problem is often one of opportunity rather than substantive difference. For most of recent history, human rights and humanitarian law were treated as incommensurable

218 This is a simplification of what can involve the application of various legal tools of interpretation such as, for example, the application of specialized rules over those of general application. This simplification also does not address the details of identifying the precise relationship of overlapping rules or determining the existence of real or perceived conflict.

and there were few efforts to reconcile them. Not only do the specialists who develop the laws operate in different spheres – as in the case of environmental and human rights specialists – but the organizations that implement the laws and the fora in which they are addressed tend, often, to remain separate. When, in respect to humanitarian and human rights law, this began to change, it turned out that there were far fewer problems of interpretation than many assumed, though thorny issues remain.

The norms of the right to food and climate change have extensive overlapping application and influence, as this report and others have elaborated. When read together, they also point to specific and concrete steps that are necessary for harmonious implementation. The table below illustrates the active agenda that emerges from this. The following section details recommendations for how this might be implemented.

Climate change	Human rights	Concrete implications when harmonized
<p>UNFCCC main objective: prevent and anticipate adverse impacts of CC on human health and welfare (Art. 1), including on food production (Art. 2)</p>	<p>International Human Rights Law main objective: prevent and provide redress for violations of the right to life, food, (health, property, housing, security) without discrimination</p>	<p>Preventing adverse impacts on human welfare – including the prevention of right to food violations – and requires that states and (if applicable) international organizations, corporations, and civil society actors:</p> <ul style="list-style-type: none"> — identify those whose access, availability, and adequacy of food supply and nutrition status will be most affected; — establish adequate mitigation policies that guarantee dangerous thresholds (e.g., +2°C) are not reached, hence avoiding severe threats to stable food supplies; ensure that such mitigation measures do not cause adverse impacts on current human welfare themselves through destabilization of world food prices or local disproportional attribution of scarce water and land resources; — anticipate human rights violations through adaptation planning, with specific focus on the most vulnerable populations.

Climate change	Human rights	Concrete implications when harmonized
Precautionary principle	Subsidiarity of reparation vis-à-vis prevention of human rights abuses	<p>Rather than providing reparations on a case-by-case basis, states are expected to take preventive action to avoid violations from occurring in the first place. Uncertainty about climate change impacts requires additional preventive action, including the following:</p> <ul style="list-style-type: none"> — avoid even more unpredictable right to food violations that could occur if thresholds for non-linear climatic evolutions are met; — build resilience before rather than after the disaster; — invest in better information about vulnerability to take more efficient measures for those most at risk; coordinate information with human rights monitoring tools well-equipped to assess human rights threats.
Do no (trans-boundary) harm	Duty to <i>respect</i> human rights beyond a state's borders, in particular prohibition to deprive peoples of their means of subsistence (Common Art. 1 ICCPR/ICESCR)	<p>Avoiding transboundary human rights violations in the context of climate change implies that:</p> <ul style="list-style-type: none"> — states with high emission rates reduce them so as to stop transboundary harm and provide compensation for the harm they are unable to prevent through adaptation funding; — states cooperate at the international level to prevent transboundary harm, including through thorough agreements that create a common level playing field for reduced emissions.

Climate change	Human rights	Concrete implications when harmonized
Duty to cooperate internationally	Duty to cooperate internationally to respect, protect, and fulfill economic, social, and cultural rights	<p>The duty to cooperate internationally includes a positive component, obliging states to actively collaborate for a more resilient global environment. This requires:</p> <ul style="list-style-type: none"> ■ engaging in international negotiations and reaching a solid international agreement that effectively allows for reducing adverse impacts of climate change on humans; ■ providing technical, social, and economic assistance in assessing vulnerability and determining adaptation and mitigation strategies; transferring technological, scientific, socioeconomic, and legal information about climate change.
Shared but differentiated responsibilities; polluter pays principle; climate justice	(1) Accountability for human rights violations, and (2) duties varying in function of the maximum of available resources	<p>Different responsibilities derive both from the fact that some contribute more to climate change and that some are less able to adapt to climate change. This leads to two implications:</p> <ul style="list-style-type: none"> ■ accountability of polluters: those most responsible for violations of right to food resulting from climate change should act most swiftly to prevent future harm and to compensate for harm that is occurring; ■ climate justice: states with lesser means to change policy due to welfare constraints have less stringent obligations to mitigate climate change but should nonetheless act to the <i>maximum</i> of available resources to prevent and anticipate harm, including through adaptation planning.

Climate change	Human rights	Concrete implications when harmonized
<p>UNFCCC Equity principle; polluter pays principle; Stockholm Declaration; climate justice</p>	<p>Equality principle; accountability and access to remedies; distributive and corrective justice</p>	<p>The principles of equity and justice require that those who cause harm provide those they affect with effective remedies. These principles, closely linked to accountability, imply that:</p> <ul style="list-style-type: none"> — current polluters are not rewarded for pollution; accordingly, emission credits are not given as a reward for present pollution but are auctioned off; additional credits are only for legitimate emission reductions, not for stopping illegal environmental harm; — adaptation funding is compulsory rather than voluntary and falls proportionally on the most polluting actors; finding an equitable balance between accounts for historical pollution, present pollution, and constraints resulting from (sustainable) development imperatives. <p>These principles also have consequences on the compensation side: substantive equality requires that existing discrepancies in adaptive capacity between developed and developing countries and between wealthy and poor subgroups be taken into account and that redress be allocated accordingly. This implies that:</p> <ul style="list-style-type: none"> — international negotiations take into account disproportional impacts on subsets of vulnerable states whose food security is particularly at risk (LDCs, small island states, etc.); — national governments pay particular attention to the most affected populations within society, e.g. in their national communications and the design of NAPAs.

Climate change	Human rights	Concrete implications when harmonized
Principle of sustainable development	Progressive realization of human rights	<p>The principle of sustainability introduces a time dimension in both the fight against harmful climate change and the aim of realizing human rights: short-term benefits should not arrive at the expense of long-term welfare, and vice versa. This implies:</p> <ul style="list-style-type: none"> ■ current practices that cause GHG emissions and thus contribute to climate change impede the realization of the right to food in the long-run and should therefore be curtailed; ■ current mitigation policies that could lessen global warming should not come at the expense of current efforts to realize the right to food.
Aarhus Convention; duty to spread information; allow for participation in decision-making; access to justice for denial of the first two entitlements, partly reflected in Art. 4.1 (i) UNFCCC (information and participation)	Procedural aspects of rights-based approach: access to information; participation in decision-making; accountability	<p>In addition to substantive requirements, both regimes require that certain procedural entitlements be respected, including:</p> <ul style="list-style-type: none"> ■ the provision and distribution of information about climate change impacts, requiring additional support for regions where research is currently lacking; ■ the provision and distribution of information about means to mitigate and adapt to climate change; ■ mechanisms to ensure that mitigation and adaptation measures take into account the interests of local communities, allowing for their participation; ■ ensure that interstate mechanisms for adaptation funding are based on a governance structure that allows for the participation of those countries disproportionately affected by climate change; ■ accountability: ensure that the enforcement of the climate change regime is not limited to the enforcement of emission-reduction commitments but also checks on effectiveness and effects of mitigation measures, technology transfers, allocation of adaptation funding, etc.

The following section aims at making harmonization concrete for stakeholders dealing with human rights, climate change, or both. It aims to demonstrate for human rights institutions how to better deal with climate change challenges, and to show climate change bodies how they can better assess the human rights impacts of global warming.

4.2 Recommendations for the Climate Change Regime

4.2.1 Introduction: The Need for a Human Rights Approach to the Climate Change Framework

Future climate change negotiations are guided by the Bali Roadmap, which shows the way to a follow-up treaty under the Kyoto Protocol, expected to be agreed upon in Copenhagen in December 2009. The Bali Action Plan calls for long-term cooperation between states and specifies the issues that must be addressed in future negotiations. In general, these issues include: (1) mitigation measures, (2) adaptation measures, (3) technology development and transfer, and (4) funding to support mitigation, adaptation, and technology cooperation.

On the basis of our analysis, and taking into account the climate change framework's objective and principles (see above section 2.3) and the Bali Action Plan, this section makes recommendations for three components of the climate change framework that are particularly relevant for the right to food – information, mitigation, and adaptation – and for a means of enforcement.

4.2.2 Recommendations for Climate Change Research and Information Gathering

A major challenge in combating and coping with climate change impacts is the need for reliable information on how the phenomenon will impact the right to food (see section 2.4). Further research and information is necessary to properly address food security issues in this context.

Further Increasing the Focus on Food Security Research and Information (IPCC, in particular its Working Group 2 on Impacts, Adaptation, and Vulnerability)

The largest source of scientific climate change information are the Intergovernmental Panel on Climate Change (IPCC) reports, which increasingly focus on food security issues in spite of many barriers to collect information for and from vulnerable populations. States should cooperate in overcoming these barriers and reinforce the full exchange of scientific, technological, socioeconomic, and legal information, and the education, public awareness, and participation on climate change issues.

Currently, the “Principles Governing IPCC Work” allow experts as well as international and nongovernmental organizations to be invited to the IPCC working sessions. Human rights experts could use this procedural tool to effectively participate in the IPCC's sessions to promote the operationalization of human rights within the group's future assessments. In addition, more could be done to integrate traditional knowledge of the most vulnerable peoples within the IPCC's functions. The FAO has recognized that “[t]raditional knowledge is used to observe, monitor and report weather-related changes in food and agricultural

systems and to adjust to these climate-related impacts. The loss of such knowledge and resilience results in increased food insecurity, poverty and conflicts, while livelihoods decline and biodiversity disappears ...”²¹⁹ The exchange of information must be reciprocal. Not only should traditional knowledge receive the place it deserves within IPCC’s reports, the wealth of knowledge gathered in IPCC reports must also reach vulnerable communities to better combat and cope with climate change impacts.

Another missing element in IPCC assessments is the use of food security measuring tools and human rights indicators demonstrating whether certain phenomena (such as climate change) or policies (such as mitigation and adaptation measures) have a detrimental impact on the realization of the right to food. The IPCC should try to better measure climate change-related harm with human rights tools such as the FAO’s Food Insecurity and Vulnerability Information Mapping Systems (FIVIMS) (see chapter 3 and below). The results of these measurements should inform the climate change and human rights regimes simultaneously.

*Improving Information Sources under the UNFCCC and Kyoto Protocol
(National Communications)*

National communications under the UNFCCC should be improved to better predict and address right to food violations. The COP should adopt a specific commitment to monitor, assess and report on the impacts of climate change and climate change policies on human rights. This would allow the underlying causes of food insecurity to be more accurately measured. This additional analysis could be conducted either through direct cooperation with human rights institutions or the creation of a new subsidiary body focused on the linkage between human rights and climate change that assists states parties. In particular, the national communications system and Nairobi Work Program should better integrate a human perspective within its vulnerability assessment guidelines and models in order to generate the necessary information to protect human rights within the framework.

In the context of the right to food, states should assess national food security, and particular vulnerability to the impacts of climate change. The Guidelines for national communications from Non-Annex I countries already include food security as one of the key vulnerable areas to be assessed, but do not provide further guidance on how to perform such an assessment. States need to be provided the resources and information to conduct an accurate assessment that will provide them with this information.

For the purpose of assessing food insecurity and vulnerability, the FAO has already developed a “food system vulnerability assessment” that evaluates each of the components of food security in the context of climate change (see Annex –

219 FAO, *FAO and Traditional Knowledge: The Linkages with Sustainability, Food Security and Climate Change Impacts* (2009).

FAO Food System Vulnerability Assessment).²²⁰ This assessment could be used as a starting point. It could be complemented with other assessment tools such as the FAO's Food Insecurity and Vulnerability Information and Mapping Systems (FIVIMS), even though a tool such as FIVIMS are not yet fully adapted to the challenges of climate change. This is exactly where climate change and human rights should work together: the human rights community should integrate climate-related factors in its human rights assessment tools, and the climate change regime should use human rights tools to better assess adverse impacts of climate change on human beings, particularly the most vulnerable.

States must also assess the impacts that mitigation and adaptation policies may have on the accessibility, availability, and adequacy of food supplies in order to comply with the states' duties to respect, protect, and fulfill the right to food. In addition, it should evaluate if the decision to adopt and the implementation of these policies are transparent and provide access to information and public participation sufficient to comply with the states' duties.

4.2.3 Recommendations for Mitigation Measures

The UNFCCC requires state parties to adopt national programs and policies to mitigate climate change. Additionally, the Bali Action Plan encourages the adoption of measurable, reportable, and verifiable mitigation actions. This is needed to avoid the dangerous climate change threshold of 2°C above pre-industrial levels (see section 2.5).

Assessing the Human Impacts of Mitigation Measures

To ensure that mitigation measures do not negatively affect human rights while combating climate change, states should carry out impact assessments for mitigation policies they adopt. With regard to impacts on the right to food, for instance, a biofuel mitigation project could significantly affect food availability and sustainability within a state, since it requires the use of land previously used for food production. Such an impact assessment should take into consideration the project's direct and cumulative adverse impacts on food adequacy, availability, access, and sustainability within the states jurisdiction. In compliance with the "do no harm" principle and with the duty not to deprive peoples of their means of subsistence, states must also consider the project's transboundary environmental and human rights impacts. In addition, the approval of such actions must be transparent and consistent to good governance principles, such as the active participation of those most at risk of the actions' impacts.

The Bali Action Plan encourages the synergy between different public and private stakeholders to support mitigation in a coherent and integrated manner. Accordingly, states must encourage access to information and public participation through the elaboration of mitigation measures, especially the participation

²²⁰ *FAO Climate Change Framework Document 2008*, pp. 20–1.

of the most vulnerable populations that could be impacted by those measures. This requires an international and national effort to implement the procedural guarantees established in the Aarhus Convention.

Application: Analyzing Impacts of Existing Mitigation Measures

Some of the existing mitigation actions show how they may benefit from human rights impact assessments proposed above.

Mitigation in the Agriculture Sector

Mitigation strategies in the agriculture sector are particularly relevant: on the one hand, the agriculture sector produces 13.5 percent of the world's GHG emissions; on the other hand, it is essential for food production and the livelihood of 36 percent of the world's total workforce.²²¹ Therefore, from a rights-based perspective, state parties must encourage sustainable agricultural practices to mitigate climate change while assessing its possible impacts on food security. While not directly relying on human rights tools, the FAO has already started working in this direction. It tries to promote agricultural practices that not only benefit the fight against climate change but also sustainable food production, such as no or low soil tillage agriculture.²²²

Emission Trading

The International Emission Trading System may exacerbate national and international climate justice problems, since it may increase pressure on poor populations that lack the means to act as equal players in a competitive market (see section 2.5). A solution could be to couple trading of emission credits with funding mechanisms for adaptation to climate change. Norway, for instance, recognized that “adaptation processes must involve local communities and civil society, taking into consideration the needs of the poorest and most vulnerable people,” and proposed to take a small share of auctioned emission rights to fund adaptation for those and other people:

*In cap-and-trade systems allowances are valuable, in other words assets ... A small percentage of this asset value could be auctioned directly or through a tax on issuance of the allowances ... A two percent auctioning of the asset (similar to the CDM levy) ... would generate an annual income of between USD 15 and 25 billion.*²²³

Clean Development Mechanism

With regard to the Clean Development Mechanism (CDM), the projects' approval process should integrate a project-specific impact assessment and public

²²¹ Ibid., p. 9.

²²² See e.g. *ibid.*, p. 60.

²²³ UNFCCC, Ad hoc Working Group on Long-Term Cooperative Action under the Convention, Finance, Submission of Norway on auctioning allowances, Bonn, available at http://unfccc.int/files/kyoto_protocol/application/pdf/norway_auctioning_allowances.pdf

participation safeguards. The cost-effectiveness of these projects should not be achieved at the expense of human rights violations, nor should current human rights violators be rewarded for extremely polluting practices. Such result would be inconsistent not only with the objective and principles of the climate change framework, but also with the states' obligations under the human rights framework. For example, "clean coal" projects aimed at reducing GHG emissions use a great amount of water that could be used for agricultural irrigation in a particular locality. The magnitude of the project's impacts on food security will mostly depend on the particular food and water resources circumstances of the project's location. If there is a deficit on water resources for the domestic and agriculture sectors, the "clean coal" project may be a menace to food production and the state will have to allocate the water resources in the most sustainable way, taking into account both its right to food and right to water obligations.

UN-REDD

The Bali Action Plan encourages positive incentives for reducing emissions from deforestation and forest degradation in developing countries. Future negotiations must ensure that a rights-based approach is integrated directly or indirectly under the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD). Elements such as a focus on vulnerable populations, impact assessments, and procedural means to guarantee the effective participation of these populations in the decision-making process are necessary for the program's implementation.

4.2.4 Recommendations for Adaptation Measures

Perfecting the National Adaptation Programs of Action

The Bali Action Plan encourages international cooperation to support urgent implementation of adaptation actions, including through vulnerabilities and financial needs assessments, with special consideration for the urgent and immediate needs of developing countries. Therefore, the Plan calls for the improvement of existing efforts such as the National Adaptation Programs of Action (NAPAs), which identify the urgent and immediate adaptation needs of the Least Developed Countries (LDCs). NAPAs should rely on improved impact assessments of climate change and food security, as those portrayed above, in order to better identify the adaptation policies and actions urgently needed to help the most vulnerable populations. Here again, the FAO has already announced its intent to bridge the gap in the context of its work on National and Regional Programs for Food Security (NPFS and RPFS), which are "instruments

that help countries enhance productivity and diversify the livelihoods of rural people.”²²⁴

The Bali Action Plan also encourages the integration of adaptation actions within national planning, and the synergy between different stakeholders in order to support adaptation in a coherent and integrated manner. In line with this encouragement, NAPAs may enhance their current public participation procedures to empower local communities and integrate traditional knowledge in the prioritization of adaptation actions. As the FAO said:

*Communities apply traditional knowledge in early warning systems that calculate risks or detect extreme weather events, droughts or floods. They use it in adapting subsistence strategies for agriculture, fishing, forestry and foraging; improving water and resource management; enhancing ecosystems; selecting which resources to use to mitigate or adapt to climate change effects.*²²⁵

In addition, NAPAs’ technological, social, and monetary barriers have to be tackled with long-term international cooperation efforts. The Expert Group on Technology Transfer continues to serve as one of the main channels to improve such cooperation with regard to technological needs.

Funding NAPAs

NAPAs play a key role in the prioritization of adaptation measures, but the lack of funding impedes their proper implementation. To remedy the lack of funding, a rights-based approach would recognize that those most responsible for human rights violations resulting from climate change should be held accountable and contribute to both preventing and remedying them. Therefore, the funding institutions under the framework, such as the Adaptation Fund, should provide access to information and guarantee public participation in the resource allocation process in order to assure accountability under the framework and obtain the necessary funding to address right to food issues.

An additional problem is the allocation of adaptation funding *within* a beneficiary country: there are few safeguards to ensure that it is spent in the sectors that need them most. Consequently, while the collection of funding is consistent with the “polluter pays” principle and while it could reinforce the UNFCCC’s ultimate objective of preventing climate change harm, it remains to be seen how the funding is spent in practice. In the absence of formal guarantees, human rights organizations and other civil society actors should carefully scrutinize who benefits from the funds, and to what extent they address the needs of the most vulnerable populations.

²²⁴ *FAO Framework Document 2008*, pp. 74–5: “In countries with both an NPFS and a NAPA, FAO will facilitate the inclusion of appropriate actions from the NAPA in the NPFS. Where there is no NAPA, FAO will provide necessary support for incorporating priority adaptation measures in the NPFS.”

²²⁵ FAO, *FAO and Traditional Knowledge*.

Paying the Polluter: CDM Credits for Recovery of Flared Gas

An interesting example of a CDM project that correlates with the human rights framework is the recovery of associated gas that would otherwise be flared at Kwale oil-gas processing plant in Nigeria. As will be explained in section 3, in a similar case, the Nigerian Courts ordered Shell to stop the activity of gas flaring – burning unwanted associated gases like methane to keep crude oil only – both because it was extremely polluting for the direct environment and because it caused as many greenhouse gas emissions as all the other emissions in sub-Saharan Africa combined. The Nigerian courts considered this practice a violation of the human right to a healthy environment. Ironically, the Kwale oil-gas processing plant is obtaining emission credits for avoiding a practice that was already banned by the Nigerian courts in a similar case.

Source: UNFCCC, *CDM Project 0553: Recovery of Associated Gas That Would Otherwise Be Flared at Kwale Oil-Gas Processing Plant*, Nigeria, at <http://cdm.unfccc.int/Projects/DB/DNV-CUK1155130395.3/view>

4.2.5 Recommendations for Enforcement Mechanisms

The UNFCCC lacks accountability tools to obtain redress from the negative consequences that climate change impacts and related policies have on human rights (see section 2.7). This gap creates a lack of recognition that climate change is a human rights issue and that human beings are active rights-holders. For instance, when public participation entitlements are denied to vulnerable populations in the allocation process for adaptation funding, those populations lack access to a forum that would address the human rights consequences of such denial. Allowing climate change victims to seek redress would be the ultimate recognition that climate change is a human rights issue.

Access of individual victims to an enforcement body within the climate change regime seems highly unlikely in the short term, however. In part, this problem could and should be addressed by existing human rights institutions, which are mandated to deal with individual harm (see below). Yet, even in the climate change framework, more could be done. Concretely, the powers of the Kyoto Protocol's Compliance Committee, which are currently limited to controlling the compliance with emission targets, could be greatly expanded to encompass the other commitments under the UNFCCC and the forthcoming agreements.

4.2.6 Conclusion

Given the relevance of human rights for the climate change regime, recognition by the Conference of the Parties (COP) of climate change as a human rights issue would be most desirable. There is an increasing awareness that adaptation plans are closely related to the prevention of human rights violations, justifying the informal appointment of a contact person for human rights and adaptation within the UNFCCC Secretariat. Current adaptation efforts are more focused on human consequences than mitigation measures, but every component of the framework – information, adaptation, and mitigation – can still be improved to more accurately address human rights issues, and therefore, a subsidiary body or other formal mechanism can be created to achieve such a task.

4.3 Recommendations for International Human Rights Bodies

The human rights community has not been present in the technical discussions on adaptation programming/planning, such as the activities mandated under the Nairobi Work Program. Membership in the Nairobi Work Program could be quite useful for increasing the visibility of human rights in the climate change process. (Martin Schoenberg, UNFCCC Secretariat)

The international human rights regime has been largely absent in climate change discussions, in spite of the flexibility of right to food principles, and in spite of the many tools the human rights regime has at its disposal to address the human rights challenges climate change causes. There are three areas where the human rights community could play a more proactive role:

(1) raising awareness about the impacts of climate change on human rights, including on the right to adequate food, and clarifying existing human rights obligations to address those impacts;

(2) fine-tuning existing monitoring tools and human rights indicators and benchmarks for policy evaluation in order to assess whether government food policies take into account the disparate impacts of changing environmental circumstances, and whether climate change policies are adequate to mitigate climate change while ensuring food security and to allow populations to adapt to adverse climate change impacts;

(3) playing a central role in fostering accountability for the failure to rigorously mitigate climate change or to adopt adequate adaptation policies.

The following section suggests ways in which international human rights bodies could carry out these distinct roles.²²⁶ The ultimate target of human rights initiatives is not the institution that is using it, but the state, which remains the central actor capable of adopting comprehensive climate change and food security policies, as well as other actors that have leverage that impacts food security, climate change, or both. It is ultimately up to these actors to be receptive to incentives from international and nongovernmental bodies and to better integrate climate change and human rights concerns.

4.3.1 Raising Awareness about Links between Climate Change and the Right to Food

Special Session on Climate Change and Human Rights (Human Rights Council)

The UN Human Rights Council could use more expansive tools to ensure that climate change threats and impacts be taken into account. It has the ability to

²²⁶ Some of the recommendations made in the following section can also be found in *CIEL Practical Steps 2009*, which proposes different options for institutional change in the human rights regime and the climate change regime to bridge the gap between both and discusses advantages and disadvantages of these different options.

organize special sessions when one-third of its members ask to address an issue that is particularly pervasive for human rights. Two special sessions have already dealt with global-scale problems, indicating that a meeting on climate change and human rights would be possible and productive: the global food crisis (7th special session) and the global financial crisis (10th special session). What we are currently facing is a global climate crisis. Upcoming climate change negotiations provide the ideal momentum for the Human Rights Council to address this crisis. The outcome of such a focused Special Session should contain concrete rights-based recommendations for climate change negotiations and then be submitted at the COP in Copenhagen.

New Mandate for a Special Rapporteur on Climate Change and Human Rights (Human Rights Council)

Prospective reports of individual Special Rapporteurs provide an invaluable input to the debate, but growing, persistent climate change threats justify the appointment of an expert with a specific mandate to provide a comprehensive analysis of the issues raised by climate change and human rights. The benefits of such a position would be to have a more coordinated approach, more time for directed and varied case studies, more active participation in climate change discussions and negotiations, and a better chance that concrete and specifically tailored recommendations to address current climate change-based human rights issues will be formulated. Needless to say, such a rapporteur would continue receiving input from his or her colleagues regarding specific rights that are particularly affected.

More Active Involvement of Human Rights NGOs

Often, intergovernmental bodies will only act after nongovernmental organizations convince them of the value and need for doing so. A few human rights organizations have taken the lead in calling for more action, such as the International Council on Human Rights Policy, the Center for International Environmental Law, Oxfam, the Ethical Globalization Initiative and, for the right to food specifically, Brot für die Welt and GermanWatch.

Beyond these frontrunners, however, international human rights organizations have avoided the issue altogether. As the International Council for Human Rights Policy (ICHRP) noted, this illustrates “a near complete disciplinary disconnect, an impression borne out by a glance at the 10,000-strong participants’ list for the recent (thirteenth) Conference of the Parties of December 2007, among whom no more than a tiny handful hailed from human rights backgrounds.”²²⁷ Human rights NGOs should become acquainted with the negotiation topics that will be discussed in Copenhagen in December 2009 and carefully follow the negotiation process for a post-Kyoto agreement. They should act as crucial messengers between the human rights and climate change regimes.

²²⁷ ICHRP *Rough Guide* 2008, p. 3.

Additionally, national organizations should participate in forming and scrutinizing national adaptation and mitigation policies, emphasizing the importance of both, and ensuring that they allow for preventing and remedying human rights violations.

4.3.2 Clarifying Human Rights Obligations in Light of Climate Change

General Comments (Treaty Bodies)

None of the bodies tasked with monitoring and interpreting international human rights treaties have dealt with climate change in a comprehensive manner. Nothing prevents institutions such as the Committee on Economic, Social and Cultural Rights and the Human Rights Committee from more clearly highlighting which obligations states have in light of the problems presented by climate change. The Committee on Economic, Social and Cultural Rights could provide guidance for post-Kyoto negotiations in defining what the duty of international cooperation means when anticipating human rights violations resulting from climate change.

Recommendations and Guidance (Advisory Committee of the Human Rights Council)

The Advisory Committee, think tank of the Human Rights Council, should engage more actively in analyzing climate change impacts and should make recommendations to the Council. Traditionally, the Advisory Committee has submitted draft declarations and conventions as a first step in the human rights treaty-making process. A treaty on climate change and human rights is not necessarily the most useful step however, largely because states already have a preexisting duty to deal with climate change as a human rights problem under international human rights law. However, the Advisory Committee could elaborate on specific areas where the scope of state obligations is not entirely clear, such as the kind of international cooperation states should engage in under human rights law in the light of climate change.

4.3.3 Adapting and Using Human Rights Tools to Foster Better Climate Change Policies

Human rights tools (such as monitoring, reporting, indicators, and benchmarks) are the functional vehicles for operationalizing the right to food and understanding the degree to which it has been impacted by climate change. Monitoring should focus on food-insecure groups and on the underlying causality of food insecurity.²²⁸ Reporting should assess progress in the realization of the right, and indicators and benchmarks must provide the thresholds to perform such assessment, avoid violations, and achieve the fulfillment of the right. Human rights

²²⁸ O. De Schutter, *Building Resilience*.

Proposal for Mandate of a Special Rapporteur on Climate Change and Human Rights

The Special Rapporteur on Climate Change and Human Rights could be requested to:

- gather information on human rights violations resulting from climate change impacts;
- identify and clarify human rights standards at the domestic and international levels for developing and developed countries in the light of climate change impacts;
- discuss possible means of cooperation with relevant actors, including governments, relevant UN bodies, and specialized agencies and programs, in particular institutions and negotiating parties under the UNFCCC and climate change sections of the FAO, the World Health Organization, the International Office for Migration, as well as NGOs and international financial institutions, in particular the Global Environmental Facility;
- report on evolutions in climate change negotiations relevant for the promotion and protection of human rights throughout the world;
- identify best practices in mitigating and adapting to climate change and make recommendations with a particular emphasis on practical solutions for the protection and promotion of human rights in the context of climate change.

thresholds represent the minimum acceptable behavior allowable in a given scenario.²²⁹ In addition to substantive requirements, human rights tools assess whether procedural guarantees (such as information, public participation, and accountability) are in place to turn rights-holders into active rights claimants with viable remedies and to empower vulnerable populations and individuals to take legal action under the climate change framework.

Section 3 indicated the limits of existing reporting guidelines and specific right to food assessments in explicitly capturing harm from climate change or related policies. The following section will use these understandings to suggest several adaptations for these mechanisms to become fully effective in dealing with climate change.

Addressing Climate Change in the Universal Periodic Review (for the UN Human Rights Council)

The Universal Periodic Review (UPR) is one of the rare mechanisms that are able to review how climate change affects countries across the globe. In the handful

²²⁹ ICHRP *Rough Guide* 2008.

of cases where threatened states have addressed the issue of climate change on their own initiative, the subsequent response of other states has been disappointing. Reviewing the impacts of and responsibility for climate change harm should become more systematic, and be dealt with not only by states that are affected but also by those most responsible for the problem.

To that end, the Human Rights Council should fine-tune the currently broad and ambiguous reporting guidelines and ask states, UN bodies, and civil society actors to ensure that their respective reports address any and all threats of a global nature, including but not limited to climate change. When reports raise specific challenges of climate change, peer reviewers should take such concerns seriously and immediately work to engage in a constructive dialogue that leads to concrete recommendations for rights-based climate change mitigation and adaptation plans.

Amending the Harmonized Guidelines on State Reporting (Treaty Bodies)

UN treaty bodies have more detailed reporting guidelines (the Harmonized Guidelines on State Reporting) than the UPR, but they presently do not include any reference to climate change. Treaty bodies should require that states report on how they fulfill their obligation to respect, protect, and fulfill human rights in the context of climate change, providing meaningful analytical tools to aid states in doing this. This would not only raise awareness among states that climate change is also fundamentally a human rights problem, but it would also provide them with an incentive to anticipate its consequences and act now to take preventative steps to stop them.

In the common core of the reporting document, the issue of climate change could easily be inserted in the section on “demographic, economic, social, and cultural characteristics” of the country. States could be asked to specifically report on climate change effects and of mitigation and adaptation measures on human rights, in particular on the realization of the right to food.

The treaty-specific document about regarding the realization of economic, social, and cultural rights presently requires that states indicate how they comply with these rights’ obligations as a member of the international community (e.g., as a member of international financial institutions).²³⁰ One could add an additional category, asking the state to assess how it fulfills its obligations in the context of negotiations on major global issues, including but not limited to climate change negotiations. This could, firstly, be asked specifically of countries that are required to assist developing states under Article 2 of the International Covenant on Economic, Social and Cultural Rights (ICESCR), in particular wealthy countries that disproportionately contribute to climate change.

Specific questions could also be useful for states that are disproportionately affected by climate change. Reporting obligations already cover “[s]tructural or other significant obstacles arising from factors beyond the State party’s control

²³⁰ Committee on Economic, Social and Cultural Rights, E/C.12/2008/2 (Mar. 2009).

which impede the full realization of the Covenant rights.” Climate change could be mentioned more explicitly as falling into this category – a step that the small island state Tuvalu took in its latest report.²³¹

Applying the FAO Policy Recommendations to the Issue of Climate Change (the FAO Right to Food Unit)

The FAO Right to Food Unit has recommended that states – when faced with international factors negatively influencing the right to food – indicate what measures they undertake to remedy those factors. The FAO Right to Food Unit should, in its dialogue with human rights institutions, apply this general recommendation to the specific instance of climate change. More specifically, it could recommend that states address the following questions when reporting on the realization of the right to food:

- Which positions has the state taken during climate change negotiations in the context of the UNFCCC COP?
- Have these positions maximized chances of combating climate change to the benefit of the realization of the right to food?
- What are the strategies set up to adapt to harmful climate change impacts and how do these strategies manage to lessen constraints on the realization of the right to food?
- Which procedures assess the impact of mitigation and adaptation measures on local communities?

Reporting at the regional level should follow similar questions. Where standard questionnaires exist to guide states in the report drafting process, they should be amended so as to take into account global challenges like climate change.

Identifying and Understanding Climate Change-related Food Insecurity (FAO – FIVIMS)

Like the reporting guidelines, the more technical human rights tools designed to identify human rights threats and assess policy impacts should be redesigned to better deal with climate change. Two sets of human rights tools discussed above in Chapter 3.3 will be useful to monitor policies dealing with food security and climate change: the FIVIMS Initiative and the IBSA Procedure.

The FIVIMS Initiative is designed to map food insecurity and find its national and subnational causes. One caveat of the FIVIMS Initiative is that it fails to address international factors that play a great role in ensuring the availability, accessibility, and adequacy of food at the local level. Global climate change is one such factor. Integrating global factors such as climate change, however, may require substantial reviewing and editing of the FIVIMS Initiative. Yet, if it forms the basis of food security analysis, omitting such international factors may lead to inherently flawed and ultimately harmful policy choices.

²³¹ See supra note 184.

Another drawback is that the data gathered under the FIVIMS Initiative is currently incomplete. The environmental data in FIVIMS is largely static. It reflects the average climate likely to prevail in a country or sub-region, rather than the actual effects on climate that are occurring as a result of climate change. FIVIMS should identify which shifts in climatic patterns and which climate change-related policy choices could put food security at risk. In that respect, it would benefit from integrating data from the IPCC and from national communications submitted in compliance with UNFCCC commitments. This would not only improve the accuracy of mapping exercises, but it would also provide an incentive for more proactive research on the local impacts of climate change on food security.

Using Indicators to Assess the Impacts of Climate Change (Policies) on the Right to Food (Committee on Economic, Social and Cultural Rights – IBSA)
The IBSA Procedure for the right to food is designed to assess food insecurity and structural and procedural factors that might influence the realization of the right to food. The indicators currently used in the procedure could indirectly measure harm resulting from climate change, but the link is not explicitly made. The indicators should be altered to meet that end, and the information that results from the procedure will then serve as an important new input for climate change adaptation planning.

Outcome indicators (measuring the availability, accessibility, and adequacy of food and nutrition) should more specifically take into account the manifold ways in which climate change affects food availability, accessibility, and adequacy by measuring changes in access to productive resources and to sustainable water supplies (which it already does) as well as ecological shifts, changes in biodiversity, impacts of extreme weather events, etc. Structural indicators that assess national institutions and policies should address more broadly whether a national climate change adaptation plan has been put in place and, if so, whether it is effective in protecting the right to food. It should also assess whether mitigation plans have side-effects (for better or for worse) on the right to food. Lastly, process indicators should be adapted to assess whether local communities have access to food-related climate change information, whether they can participate in adaptation and mitigation programming that may affect their food security, and whether they have opportunities to hold decision-makers and other actors accountable for their contribution to climate change or adverse impacts of climate change policies.

Fostering Accountability for Climate Change Harm

Facilitating the Admissibility of Climate Change Cases

International institutions, such as human rights bodies, are particularly well-placed to deal with human rights violations resulting from transboundary environmental harm. Many of the principles underlying international environ-

mental law recur in parallel form in human rights law. International institutions should take a leading role in linking both bodies of law. They could clarify issues such as extraterritorial responsibilities for such harm. Members of the European Court of Human Rights have confirmed this idea that international or regional courts are suited to deal with climate change-related cases:

[T]he Kyoto Protocol makes it patent that the question of environmental pollution is a supra-national one, as it knows no respect for the boundaries of national sovereignty. This makes it an issue par excellence for international law – and a fortiori for international jurisdiction. In the meanwhile, many supreme and constitutional courts have invoked constitutional vindication of various aspects of environmental protection – on these precise grounds. We believe that this concern for environmental protection shares common ground with the general concern for human rights.²³²

In this regard, the decision of the Inter-American Commission not to deal with the merits of the Inuit petition because of a “lack of information” is an unfortunate missed opportunity. Hopefully, human rights institutions will begin to be more active in taking on these challenging cases and play a more proactive role in illustrating human impacts of climate change.

Interpreting the Notion of “Victim” Broadly; Enlarging Standing Requirements
With diffuse and vulnerable victims, international and domestic institutions should adopt a broad interpretation of what constitutes “interest” when harmful impacts of climate change on humans are challenged. First, given the widespread impacts of climate change, judicial procedures that allow for class actions (e.g., in the United States and in the Inter-American human rights system) or even plain public interest litigation (e.g., in India and in the African system) will allow for addressing the large-scale impacts of climate change. Given the time lapse between the action that causes the harm and the actual harm, courts and quasi-judicial bodies should even consider granting standing for potential human rights violations that unborn generations will have to endure.

Overcoming the Problem of Multiple Perpetrators and Causality
The problems of multiple and diffuse “perpetrators,” or contributors to climate change, and of causality, or the link between emissions and human rights violations, are commonly cited to discourage judicial action for climate change harm. Yet, these obstacles need not be insurmountable. The underlying goal of the techniques proposed below (which are generally a mere application of existing human rights standards) is to hold accountable those most responsible for climate change harm, that is those disproportionately emitting greenhouse gases, failing to carefully designed mitigation measures or to adopt adequate adaptation plans.

²³² ECtHR(GC), *Hatton et al. v. The United Kingdom*, July 8, 2003, Dissenting Opinion at §1.

The most direct way of holding perpetrators accountable is when actions affect both the direct environment (e.g., air pollution) and the global climate. In those cases, petitions could be viable if filed against such actors. Several cases have already been brought, for example, against the practice of gas flaring in Nigeria or mass-scale deforestation in the Philippines and in Nicaragua.²³³ As an advocacy strategy, human rights *and* environmental organizations could choose to focus on these types of cases.

However, physical proximity need not be an absolute requirement for a successful case. Indeed, it seems that human rights law does not require such a direct link between environmental harm and human rights violations, in particular since state obligations reach further than respecting human rights and include protecting them (against harmful actions of third parties) and fulfilling them (creating an enabling environment for the realization of rights). Consequently, a state can be held liable for not imposing emission-reduction caps on companies under its control but also for failing to take appropriate adaptation measures. In some emergency situations, positive state obligations can become even more far-reaching. In cases of natural disasters, the state may be required to go so far as to provide emergency relief to avoid malnutrition or epidemics.

Determining Appropriate Remedies and Funding Them

If a human rights abuse resulting from climate change need not be traced to an individualized perpetrator, who will be liable for financing the appropriate legal remedies? The answer rests in the principle that remedies will be paid for by those causing the greatest harm, and that they will be proportionally liable for repairing the damage they have caused.

One proposal rests on the idea that polluters contribute to a global fund to combat climate change according to the “polluter pays” principle and other factors, including a one-time historical contribution for past pollution. When individuals or countries are particularly harmed by climate change or need adaptation measures, all they would need to prove to get funding is that the harm is caused by climate change, not who the individual perpetrator was.

The idea could be expanded to establish several funds at different levels: nationally, to compensate for vulnerable victims within the country, funded by private actors who contribute most to pollution and per extension climate change; internationally, to compensate for vulnerable countries within the global system, funded by countries who contribute most to pollution (or an alternative, more nuanced formula). The contributions of private actors are collected by the state, which can decide whether it relies on these funds to fulfill its international compensation duty or to create a separate public fund to deal with national climate change issues.

²³³ See *supra*, cases cited in section 3.4.2.

4.4 Recommendations for the Food and Agriculture Organization

The FAO is one of the few institutions that have recognized climate change as a major issue in its own food-focused activities. This awareness has resulted in concrete initiatives to reach out to climate change bodies, for instance through a policy brief for the Bonn talks, made in preparation of the post-Kyoto agreement.

While the FAO has done invaluable work in getting the links between climate change and the right to food firmly established, more structural links should be defined between international organizations whose activities have an impact on food security and the realization of the right to food. The FAO Conference explicitly acknowledged the need to establish relations with other intergovernmental institutions.²³⁴ On the climate change side, the UNFCCC provides that the COP should seek “the services and cooperation of, and information provided by, competent international organizations and intergovernmental and non-governmental bodies.”²³⁵ Many additional bridges could be built between human rights bodies and climate change institutions, but the risk is that other tangential issues may be left out of sight and that overall coordination gets lost.

Given the core mandate of the FAO, it could play a larger coordinating role in encouraging and arranging for all involved stakeholders to meet – from trade organizations and development institutions to climate change experts. More specifically, the FAO could open one of its decision-making bodies to input from other organizations engaged in work involving food security, the UNFCCC in particular. Following its reform at the 35th session (13-15 October 2009), the FAO’s Committee on World Food Security has been transformed into a coordinating body where not only state representatives but also relevant UN agencies whose activities have an impact on the realization of the right to food shall be represented and provide input on how to align their activities with food security.²³⁶ A delegate from the UNFCCC Secretariat could take part in the work of the Committee on World Food Security.

As for joint action programs, the FAO could help design a mechanism that links international causes of hunger and malnutrition – such as climate change – with assessments on food security and the realization of the right to food. Mechanisms such as FIVIMS allow groups to be identifying causes of food insecurity, but the factors under consideration are all limited to the national and subnational

²³⁴ FAO, “Cooperation with International Governmental Organizations,” *Basic Texts of the Food and Agriculture Organization of the United Nations*, vol. II, chap. M. (2000)

²³⁵ http://unfccc.int/cooperation_and_support/cooperation_with_international_organizations/items/2533.php

²³⁶ The UN Special Rapporteur had suggested this new structure and proposed to include representatives from the WTO, the WB, and the IMF, among others, to inform the work of the FAO and coordinate global actions to combat hunger and malnutrition. Olivier De Schutter, *Coordinating, Learning, Monitoring: A New Role for the Committee on World Food Security* (May 15, 2009).

Combining Adaptation and Mitigation: Slow Food

Many international and local organizations have been working to address the issues caused by climate change and access to food. One such group, Slow Food International, began in Italy but has expanded its programs to the United States and much of Europe. The Slow Food mission focuses on the comprehensive need to create a viable food supply for all people that is “good, clean, and fair.” This means that, according to the organization, every step of the food process – from growing, to production, to consumption – should be as environmentally and culturally conscious as possible.

Slow Food has started many grassroots programs across the world to try and make people more conscious of where their food comes from and what impacts food production, transportation, and consumption can have on the world at large. Given that food production – including crop and livestock cultivation, as well as processing to make these agricultural products into consumable human nutrients – is the largest creator of green house gasses of any part of the food production cycle, the work that Slow Food is doing is much needed, and quite unique. As they expand their educational outreach programs, more people around the world are learning about sustainable food practices such as eating locally and buying products made with low-impact production methods. With such education comes the power to make positive impacts.

Source: *FAO Climate Change Framework Document 2008*; also <http://www.slowfood.com>

levels, and the environmental factors are inaccurately portrayed. Data must be collected and analyzed from the IPCC and other climate change expert bodies to bring in the international, dynamic dimensions of climate conditions.

4.5 Domestic Integration

While specialized human rights and climate change bodies should make efforts to cross the line of their respective fields of expertise to more adequately deal with human climate change harm, domestic bodies are arguably even better placed to operationalize an integrated approach to climate change and human rights. Different policy departments should foster dialogue and cooperation to mainstream both human rights and climate change concerns in the decision-making process.

A starting point is to recognize clearly the importance of human rights, including the right to adequate food, and the need to combat climate change, which may seem obvious but still has a long way to go in many countries. Furthermore, a right to a food-based approach to climate change requires that – as a direct result of the harm arising from climate change itself – states engage

the tools of human rights to assess the degrees to which climate change affects the right to food. Such a process necessitates that states effectively respond to the threats arising from climate change. Additionally, states must also engage the right to food-based approach when developing and implementing climate change adaptation and mitigation measures, consistent with their international climate change *and* human rights obligations.

Epilogue I – Climate Change Planning / Developed Country

One illustration of new and innovative legislative measures being taken to combat climate change is the California Global Warming Solution Act of 2006, recently approved and adopted by the state of California. This statute establishes the framework for California’s climate change planning and incorporates many important elements of a rights-based approach. Perhaps most importantly, it creates an environmental justice advisory committee to advise on the implementation of the statute. This committee must be comprised of representatives from communities with the most significant exposure to air pollution, including communities with large minority and low-income populations. This allows the most vulnerable communities of Californians to participate in decision-making and voice their particular concerns with regard to climate change planning, creating more reasonable and targeted solutions to the state’s climatic problems as a whole.

Source: Sec. 38591(a) of the California Global Warming Solutions Act of 2006

Epilogue II – Re-greening the Sahel / Developing Country

An example of combined mitigation and adaptation practices comes from Niger, a country that has been plagued by food insecurity for decades. From the 1980s onwards, some farmers started managing rather than cutting trees that naturally grew on their farmlands, a practice that spread across the region because of its various benefits. The Sahel Regreening Initiative, a coalition of NGOs supporting this exponentially growing process, explains that

“This on-farm re-greening has produced multiple impacts, which include increased crop production as a result of improved soil fertility, less crop damage due to reduced wind speed early in the rainy season and a longer cropping season. (...) This farmer-managed re-greening in Niger covers at least 5 million ha. The implication is that farmers have added each year during a period of 20 years an average 250,000 ha. This has never been

achieved by any tree planting project in Africa. (...) This does not yet include the value of the carbon or timber sequestered by the standing tree stock.”

Improving crop yields, reducing vulnerability to droughts while increasing the capacity to sequester carbon emissions in a region previously struck by desertification, thanks to a community-based initiative that now spreads from one village to another: the Sahel regreening process allows farmers to adapt to harsh climatic conditions, to mitigate climate change through reforestation and to secure their right to adequate food.

Source: Sahel Regreening Initiative, “Building on a Current Green Revolution in the Sahel: Some Lessons from Farmer-Managed Regreening in Niger”, August 2008

Annex – FAO Food Systems Vulnerability Assessment in the Context of Climate Change

- *Food availability* is determined by the physical quantities of food that are produced, stored, processed, distributed, and exchanged. The FAO calculates national food balance sheets that include all these elements. Food availability is the net amount remaining after production, stocks, and imports have been summed and exports deducted for each item included in the food balance sheet. Adequacy is assessed through comparison of availability with the estimated consumption requirement for each food item.
- This approach takes into account the importance of international trade and domestic production in assuring that a country’s food supply is sufficient. The same approach can also be used to determine the adequacy of a household’s food supply, with domestic markets playing the balancing role.
- High market prices for food are usually a reflection of inadequate availability; persistently high prices force poor people to reduce consumption below the minimum required for a healthy and active life, and may lead to food riots and social unrest. Growing scarcities of water, land, and fuel are likely to put increasing pressure on food prices, even without climate change. Where these scarcities are compounded by the results of climate change, the introduction of mitigation practices that create land-use competition and the attribution of market value to environmental services to mitigate climate change, they have the potential to cause significant changes in relative prices for different food items, and an overall increase in the cost of an average food basket for the consumer, with accompanying increases in price volatility.

- *Food accessibility* is a measure of the ability to secure entitlements, which are defined as the set of resources (including legal, political, economic, and social) that an individual requires to obtain access to food. Until the 1970s, food security was linked mainly to national food production and global trade, but since then the concept has expanded to include households' and individuals' access to food.
- The mere presence of an adequate supply does not ensure that a person can obtain and consume food – that person must first have access to the food through his/her entitlements. The enjoyment of entitlements that determine people's access to food depends on allocation mechanisms, affordability, and cultural and personal preferences for particular food products. Increased risk exposure resulting from climate change will reduce people's access to entitlements and undermine their food security.
- *Food utilization* refers to the use of food and how a person is able to secure essential nutrients from the food consumed. It encompasses the nutritional value of the diet, including its composition and methods of preparation; the social values of foods, which dictate what kinds of food should be served and eaten at different times of the year and on different occasions; and the quality and safety of the food supply, which can cause loss of nutrients in the food and the spread of food-borne diseases if not of a sufficient standard. Climatic conditions are likely to bring both negative and positive changes in dietary patterns and new challenges for food safety, which may affect nutritional status in various ways.
- *Food system stability* is determined by the temporal availability of, and access to, food. In long-distance food chains, storage, processing, distribution, and marketing processes contain in-built mechanisms that have protected the global food system from instability in recent times. However, if projected increases in weather variability materialize, they are likely to lead to increases in the frequency and magnitude of food emergencies for which neither the global food system nor affected local food systems are adequately prepared.

Source: *FAO Climate Change Framework Document 2008*, pp. 20–21; internal citations omitted

ACRONYMS

ABA	American Bar Association
AF	Adaptation Fund
3AR, 4AR	Third, Fourth Assessment Report (Intergovernmental Panel on Climate Change)
CC	Climate Change
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CESCR	Committee on Economic, Social and Cultural Rights
CH₄	Methane
CIEL	Center for International Environmental Law
CO₂	Carbon Dioxide
COP	Conference of Parties to the UNFCCC
CPM	Meeting of Parties to the Kyoto Protocol
ECOSOC	United Nations Economic and Social Council
ECtHR	European Court of Human Rights
FAO	Food and Agriculture Organization of the United Nations
FIVIMS	Food Insecurity and Vulnerability Information and Mapping Systems
GEF	Global Environmental Facility
GHG	Greenhouse Gas
IAComHR	Inter-American Commission on
IBSA	Indicators, Benchmarks, Scoping, Assessment
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICHRP	International Council on Human Rights Policy
ICJ	International Court of Justice
IEG	World Bank Independent Evaluation Group

IFI	International Financial Institution
IMF	International Monetary Fund
IPCC	Intergovernmental Panel on Climate Change
LDC	Least Developed Country
LULUCF	Land Use, Land Use Change and Forestry
NAPA	National Adaptation Program of Action
NGO	Non-Governmental Organization
NIC	United States National Intelligence Council
N₂O	Nitrous Oxide
NPFS	National Program for Food Security
MDG	Millennium Development Goal
REDD	Reducing Emissions from Deforestation and Forest Degradation
RPFS	Regional Program for Food Security
SBI	Subsidiary Body for Implementation
SBSTA	Subsidiary Body for Scientific and Technological Advice
TNA	Technology Needs Assessments
TNC	Transnational Corporation
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
UNGA	United Nations General Assembly
UNOHCHR	United Nations Office of the High Commissioner for Human Rights
UN-REDD	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
UPR	Universal Periodic Review
USD	United States Dollars
WB(G)	World Bank (Group)
WG	Working Group
WMO	World Meteorological Organization
WTO	World Trade Organization

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Climate change and the policies instituted to combat it are affecting the realization of the right to food in myriad, often unnoticed ways. This study highlights how the climate change regime and the human rights regime addressing the right to food have failed to coordinate their agendas and to collaborate to each other's mutual benefit. The current climate change regime fails to accurately address the human harms resulting from climate change itself, and is

not operating with the necessary safeguards and preventive measures to ensure that mitigation and adaptation measures are fully complementary to the right to food obligations of states and non-state actors. The study proposes concrete methods by which institutions can address climate change problems and realize the right to food symbiotically, in compliance with the principles of systemic integration under international law.

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