SOCIAL DIMENSIONS OF CLIMATE CHANGE

Workshop Report 2008

THE WORLD BANK
SOCIAL DIMENSIONS OF CLIMATE CHANGE

Workshop Report 2008
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A full list of workshop participants, and details of speakers, discussants, and session chairs, is provided at the end of this report. While we cannot single out by name all those who made important contributions, we are particularly grateful to the keynote speakers – Bob Watson (Chief Scientist, Department for Environment and Rural Affairs, Government of the UK), Rt. Hon. Ham Campbell (former Prime Minister of Canada and former Secretary General of the Club of Madrid), Shela Watt-Cloutier (former Chair of the Inuit Circumpolar Conference), and Dr. Ibrahim Mayaki (former Prime Minister of Niger, current Executive Director of Rural Hub, Africa) – for setting the scene so powerfully. Many thanks also to Esther Mwaura-Muiri (Founder and Director, GROOTS Kenya), Atiq Rahman (Executive Director, Bangladesh Center for Advanced Studies) and Rebecca Adams (President, First Peoples Worldwide) for their invaluable support.

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This report was written by Robin Mearns (Lead Specialist and Team Leader, Social Dimensions of Climate Change, SDV) and Caroline Kende-Robb (Sector Manager, SDV), with substantial contributions from Carina Bachofen, Gernot Brodnig, Edward Cameron, Megumi Makisaka, and Andrew Norton (all SDV). Numerous individuals provided valuable comments on earlier drafts of the report, including Nilofar Ahmad, Nina Bhatt, Maria Demos-Cift, Maityrbi Das, Andrea Liverani, Radhika Sinha, Dorte Verner, Per Wam and Carolyn Winter (all World Bank), Hans Olav Besvik (NORAD) and Ellen Watlen (DFID).

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Foreword

For too long global warming has been viewed as tomorrow's problem. The overwhelming evidence now suggests that climate change exacerbates existing development challenges, further exposing the vulnerability of the poor, and pushing those living on the margins closer to the edge. For those most at risk, climate change is a crisis today. The rights, interests and needs of those affected must take center stage as an issue of global social justice.

This report, from the World Bank's international workshop on the Social Dimensions of Climate Change, held in Washington DC March 5-6th 2008, provides voice to those most at risk and establishes the basis for a compelling discourse on the Social Dimensions of Climate Change.

Our goal at the World Bank is to help developing countries to realize the promise of sustainable development through the progressive achievement of the Millennium Development Goals. Our vision is to contribute to an inclusive and sustainable globalization – to overcome poverty, increase growth with care for the environment and create individual opportunity and hope.

Climate change alters the context of this work and thus demands new approaches, policies, and tools to help developing countries meet the challenges of reconciling climate action with the development and growth agenda.

For many years, the Bank has been a focal point for financing on climate change, and in today a major lender on renewable energy and energy efficiency. We are also at the forefront of developing the carbon market. The newly adopted Climate Investment Funds (CIFs) and Strategic Framework on Development and Climate Change (SFdCC) enhance our capacity to facilitate demonstration, deployment and transfer of low carbon technologies; and increase our focus on building climate resilience in vulnerable nations.

As a result of the March 2008 workshop, the Bank is now pioneering work designed to promote socially inclusive, climate resilient policies and operations.

I am confident that the innovative global agenda that this workshop has launched will lead to a holistic analysis of climate change impacts on human and social systems, increase our understanding of vulnerability, and strengthen our capacity to build social justice, accountability and equity into climate policy.

Katherine Sierra
Vic President, Sustainable Development
The World Bank

Executive Summary

In March 2008, the World Bank convened an international workshop on the social dimensions of climate change, which brought together government representatives, leaders of Indigenous Peoples, NGO representatives and academia. The main aim of the workshop was to identify and discuss impacts of climate change through a social lens, including potential negative impacts of the emerging climate policy architecture. Building on the platforms created by the workshop, efforts are now being made to galvanize an international peer-learning network to take this agenda forward through advocacy, policy analysis and operational work.

Climate change – a Global Challenge

While significant uncertainties remain, there is increasing consensus on the scope and drivers that shape global climate change. In 2007, the Intergovernmental Panel on Climate Change (IPCC) concluded that climate change is not only accelerating but has been induced by human activity. Without significant action, the IPCC warns, global surface temperature could rise to 4-5°C, with severe attendant impacts. The IPCC highlighted five particular reasons for concern: risks to unique and threatened ecosystems such as coral reefs, risks of extreme weather events; the uneven distribution of impacts, meaning that some groups of people will be more immediately vulnerable than others; aggregate impacts, implying that vulnerabilities will increase over time, and finally the role of significant ‘tipping points’ or threshold effects in the global climate system that could force the pace of change by orders of magnitude.

Climate change is a phenomenon with pervasive and far-reaching social, economic, environmental, and political repercussions. The IPCC's assessment and other analyses have highlighted the potential negative impacts for poverty alleviation efforts, threatening to unravel many of the development gains made in recent decades. Climate change has the potential to undermine the existence of many of the world's poorest and most vulnerable people, taxing the financial, technical, human and institutional resources to adapt. Existing forms of vulnerability are compounded by climate change-related risks such as increased water stress, food insecurity resulting from drought, desertification, new health risks, and increasing frequency and severity of extreme weather events.

Shifting the Global Debate

Workshop participants stressed the need to supplement the current emphasis on ecosystem and infrastructure impacts with a perspective on social systems and dynamics. Much discussion centered on how we should analyze the social dimensions of climate change, and what this would mean for diagnosing problems and framing pro-poor, socially accountable forms of climate action. Developing a framework for analysis emerged as another priority for knowledge deepening, with many participants considering it important to further our understanding of the dynamics of power and vulnerability under conditions of risk and uncertainty. Key elements of such a framework would likely include assets, livelihoods, power, institutions, vulnerability and resilience.

Redefining Vulnerabilities

But in all geographic settings that are highly exposed to climate hazards, people are differently vulnerable, whether as a result of their sources of livelihood, levels of income and asset holdings, social class, gender, age, ethnicity, caste, access to public support, or ability temporarily or permanently to migrate in search of economic opportunities. Just as levels and forms of vulnerability to the effects of climate change vary, so too does the capacity for societies to adapt to the changes that they will face. The adaptive capacity of...
Executive Summary

In the context of climate change, the most vulnerable are often the poorest and most vulnerable, many of whom are already feeling the effects of climate change. As climate change has become a core challenge for development, it is imperative that climate action is a priority area for further research. While undertaking actions to mitigate the causes of climate change, voice priorities and make claims on public policy, the consequences of climate change for social organization and social cohesion are highlighted as a priority area for deepening knowledge and understanding. It is known as yet about the implications of climate change for conflict, human security and state fragility, and this is a priority area for further research. If the urgency of climate change is met, then there may also be positive effects, in terms of enhanced collaboration and cooperation in the management of environmental systems and social impacts. The potential implications of climate change for social organization and social cohesion are seen as critical services (health care, housing, education) can be built in. Governance and institutions powerfully shape adaptive capacity at the national level, and are critical in ensuring that results of mitigation efforts match intentions. Governance and climate action – politics, power and voice: while undertaking actions to mitigate the causes of climate change, it is important to build the adaptive capacity and resilience of vulnerable social groups and the institutions that support them. There are some key areas of discussion that must be addressed in order to ensure that climate action is effective and inclusive. First, we need to better utilize frameworks and tools for social impact analysis (e.g. poverty and social impact analysis, participatory poverty and vulnerability assessments) when modeling the consequences of climate change for social organization and social cohesion. Second, it is important to develop indicators which can be used to track progress towards achieving results on the social dimensions of climate change. Third, we need to better utilize frameworks and tools for social analysis (e.g. poverty and social impact analysis, participatory poverty and vulnerability assessments) when modeling the effects of climate change and assessing the impact that policies could have on the poorest and most vulnerable. Developing countries is generally constrained by the limited availability of technology, weak institutional capacity, low levels of education, and inadequate financial resources. In addition, some segments of society tend to be particularly vulnerable in the impacts of climate change due to their direct and often exclusive dependence on ecosystem goods and services. This includes most Indigenous Peoples, given their dependence on natural resources for subsistence and income purposes. Similarly, women are often at higher risk, as they lack assets and access to resources diminishing their adaptive capacities. While direct natural resource dependence is an important element of vulnerability, also the urban poor are susceptible to climate change, as they often fall outside the scope of municipal services and safety nets.

Policy Challenges

Long-term horizons, uncertainty, and challenge of coordination among a vast number of decentralized actors involved in climate action point to the importance of developing climate action approaches as a socially inclusive learning process. There is scope for ‘into-sons’ or ‘no-regrets’ policies and programs that simultaneously help to address existing forms of vulnerability and provide a foundation for adaptation to future climate change. Many localities, social development is the best form of adaptation: strong and accountable institutions, effective delivery of education and health care services, integrated water resources management, pro-poor agricultural research and extension, good infrastructure and a diversified economy all contribute to societal resilience. At the same time, trade-offs exist, not least between the scope of municipal services and safety nets.

Emerging Themes

Six inter-related themes emerged from the workshop that help frame global debate on the social dimensions of climate change and shape an agenda for research, policy and action:

• Equity and Social Justice: The causes and the consequence of climate change are deeply intertwined with global patterns of inequality. Those people who have contributed least to the causes of climate change, such as Indigenous Peoples or the inhabitants of low-lying coastal regions and small island developing states, are the most vulnerable to its consequences and have the least capacity to adapt. In addition, they also risk being further marginalized by many of the mitigation measures such as large-scale hydropower schemes, biofuels, or forest carbon schemes.

• Putting Poor People First – Who is Affected and How? Many of the world’s poorest and most vulnerable people are already feeling the effects of climate change, and future changes are already unavoidable for many millions more. A first step in knowing how to help them adapt to the inevitable is to understand who is affected and how. The degree of vulnerability is shaped by livelihood context, gender, age, social class, ethnicity, and caste. While such knowledge needs to inform strategic planning for adaptation at all levels from the global to the local, a common theme is who has the power, voice and capacity to adapt?

• Social Dynamics – Consequences of Climate Change for Social Cohesion and Resilience: Climate change will produce complex social responses and may magnify migration, conflict, crime and violence. If the urgency of meeting the challenge is met, then there may also be positive effects, in terms of enhanced collaboration and cooperation in the management of environmental systems and social impacts. The potential implications of climate change for social organization and social cohesion are highlighted as a priority area for deepening knowledge and understanding. Little is known as yet about the implications of climate change for conflict, human security and state fragility, and this is a priority area for further research.

• Pro-poor Climate Action – Making Climate Action Work for Poor People: It is imperative that climate action is made to work for rather against the interests of poor people. While undertaking actions to mitigate the causes of climate change (for example, hydropower, biofuels, forest carbon finance), it is vital to strengthen the benefits and reduce the potential costs to the poor. In terms of tackling the consequences of climate change, it is important to build the adaptive capacity and resilience of vulnerable social groups and the institutions that support them. This includes the capacity to organize at the local level for adaptation, voice priorities and make claims on public policy, and mediate and resolve potential conflicts arising over competition for resources.

• Social Policy – Moving from a ‘Residual’ to an Integrated Social Policy Approach: Social policy needs to be harnessed fully into the picture for effective, pro-poor climate action. Climate change provides an opportunity for an integrated approach to policy development that takes on board both economic and social concerns while being contextualized within global political debates. Social safety nets and other mechanisms for social protection will be critical both for helping poor people to adapt and for when adaptation fails. It is crucial that institutions are needed to ensure that the provision of critical services (health care, housing, education) can adapt to changing situations.

• Governance and Climate Action – Politics, Power and Voice: Climate change poses one of the formidable governance challenges to the global, national and local levels, calling for collective action among nations and among groups within societies. Among the critical questions arising are which actors and institutions need to be involved. How to give voice to the vulnerable in crafting such governance arrangements, and how various forms of social accountability can be built in. Governance and institutions powerfully shape adaptive capacity at the national level, and are critical in ensuring that results of mitigation efforts match intentions.

As climate change has become a core challenge for development, a policy research agenda that focuses more on its economic and social impacts is called for. First, it will be important to devise best practices for integrating local knowledge with scientific knowledge in the formulation of adaptation strategies. While local knowledge has much to offer in terms of informing adaptation strategies, combining the two has proven challenging to date. Second, it will be critical to develop indicators which can be used to track progress towards achieving results on the social dimensions of climate change. Third, we need to better utilize frameworks and tools for social analysis (e.g. poverty and social impact analysis, participatory poverty and vulnerability assessments) when modeling the effects of climate change and assessing the impact that policies could have on the poorest and most vulnerable.
Climate change now tops the list of major challenges facing the international community in the 21st century. The International Panel on Climate Change’s landmark Fourth Assessment Report in 2007 provided unequivocal scientific evidence that emissions from human activity, particularly burning fossil fuels for energy, are causing changes to the Earth’s climate. The Stern Review, published in 2006, examined the economics of this complex phenomenon, a detailed understanding of which is needed to underpin an effective global response. These and countless other authoritative sources such as the Human Development Report 2007/2008 all make clear that there are glaring inequities in the distribution of responsibility for the causes of climate change and the distribution of its impacts among the nations and people of the world. It is a fact that poor people in developing countries bear the brunt of its impacts. Nevertheless, human and social dimensions of climate change have been so far neglected in the global debate.

In March 2008, the World Bank’s Social Development Department held a workshop on the Social Dimensions of Climate Change as a contribution and first step towards reframing the global debate. The workshop brought together community activists, government representatives, former heads of state, leaders of Indigenous Peoples, representatives of non-governmental organizations, international researchers, and staff of the World Bank and other international development agencies, to focus attention and help shape a global agenda on the social dimensions of climate change and their implications for effective climate action. Building on the platform created by the workshop, efforts are now being made to galvanize an international community of practice to take this agenda forward through a combination of advocacy, knowledge deepening, and policy and operational work on the social dimensions of climate change.

The presentations, panel and plenary discussions during the workshop covered a wide range of topics and involved a diverse array of speakers. Keynote addresses were given by Bob Watson, Chief Scientist of the UK Department for Environment and Rural Affairs and former Chair...
The workshop provided a platform for launching a continuing program of work on the social dimensions of climate change to be carried out by the World Bank in collaboration with a range of international partners. Follow-up activities currently under way include the preparation of an edited volume on equity and vulnerability in a warming world that will bring together revised versions of the workshop papers and a dataset on new research. A global peer learning network is being established by the World Bank as a forum for the sharing of experiences, methodologies and knowledge, and as a mechanism for coordinating advocacy on the social dimensions of climate change. A program of research and knowledge sharing is also continuing, with the overall aim of integrating the social dimensions of climate change into the policy debates and frameworks of the major international arenas and actors, from climate change negotiations in Copenhagen and beyond. This includes new work on rights, forests and climate change, including mechanisms for expanding benefits to local communities through approaches to reduce emissions from deforestation and degradation (REDD); pro-poor adaptation in urban areas of developing countries; the potential of human rights frameworks to energize climate action on a global scale; the application of analytical frameworks around vulnerability, resilience and climate governance to framing policies and operations to support climate change adaptation and to managing the potential social risks associated with climate change mitigation; the socio-economic costs and benefits of adaptation to climate change; and developing tools for increasing social accountability in climate action, such as the use of participatory scenario approaches to frame more socially inclusive approaches to climate change adaptation.
The Global Challenge

The IPCC’s Fourth Assessment Report established a definitive and undeniable consensus in the science of climate change. It is now beyond doubt that the composition of the atmosphere has changed, leading to changes in the Earth’s climate that are projected to continue both globally and regionally. It is also known with a high degree of certainty that these changes are mostly due to human activity. Greenhouse gases—chief among them being carbon dioxide—are emitted from many sectors, but most significantly from energy consumption and deforestation. Energy is primarily consumed in the power generation, transportation, and industry sectors, which together account for over 60 percent of emissions, while deforestation and other forms of land-use change account for around 20 percent of emissions (Figure 1).

The IPCC also portrayed a vision of how the changing climate is already impacting the Earth’s natural systems (Figure 2). The increasing concentration of greenhouse gases in the atmosphere has already resulted in warmer temperatures, changing precipitation patterns both temporally and spatially, higher sea levels and storm surges, retreating mountain glaciers, melting of the Greenland ice cap and reduced Arctic sea ice, more frequent extreme weather events such as heat waves, droughts and floods, and more intense typhoons and hurricanes. These are already causing severe damage to a range of unique and threatened ecosystems such as coral reefs.

Evidence shows that the temperature increase across the globe is not uniform, and there are significant regional variations in warming. The increase in extreme events may have the biggest impact and will add pressure on critical systems, such as agriculture, water availability, and transport and energy infrastructure.

Water availability in many arid and semi-arid regions is declining, and there is an increased risk of floods and droughts in many regions. The reliability of hydropower generation and biomass production is declining. The consequences for human health include an increase in
Figure 1: World Greenhouse Gas Emissions Flow Chart

Figure 2: Projected Changes Associated with Global Warming

(Source: HM Treasury, 2006)
the incidence of vector-borne diseases (malaria, dengue) and water-borne (cholera) diseases, higher heat stress mortality, threats to nutrition in developing countries, and an increase in death due to extreme weather events. While agricultural productivity may increase in some high-latitude regions with moderate levels of warming, it is projected to decline virtually everywhere in the tropics and sub-tropics, and by as much as 20 percent in sub-Saharan Africa and parts of Asia by as soon as 2020. Adverse impacts on fisheries and ecological systems – especially coral reefs – are widely expected, exacerbating the loss of global biodiversity.

Climate change is an issue of inter-generational equity, in that actions taken or not taken today will affect future generations. The IPCC developed four storylines characterizing the plausible range of projected changes throughout the 21st century in the structure of the world economy, population, governance systems, and technology development (Figure 3). Using the best available scientific knowledge of the implications of these plausible trends for greenhouse gas emissions, and how these in turn could influence the world’s climate systems, the IPCC projected a set of alternative scenarios of future changes in global surface temperature (Figure 4).

Even under the most optimistic scenario (B1), the world is already committed, as a result of past emissions, to a likely warming trend of around 1-2°C by the end of this century. With successful action on mitigation, global surface temperature could rise to 4-5°C, with severe attendant impacts. The IPCC, as a large, international committee of scientists that draws its credibility from arriving at conclusions by consensus, is also inherently conservative. It is widely acknowledged that likely climate change scenarios may be closer to the upper than the lower bounds of its range of projections, not least because the IPCC may have underestimated the potential for step changes leading to significant acceleration in the rate of warming and sea-level rise. Such threshold changes could be caused by, for example, even more rapid melting of polar ice caps or the release of greenhouse gases into the atmosphere from thawing permafrost.

Climate Change and Social Justice

Climate change has been described as the defining global social justice issue of our time. While it raises equity considerations between generations, it also has powerful implications for intra-generational equity. Climate change brings into sharp relief a vision of a world that is highly polarized – between heavy greenhouse gas-emitting countries and resource-poor countries that will suffer the worst consequences. The rich countries of the world are predominantly responsible for climate change, while poor people in poor countries bear the brunt of its impacts. The similarities between this map and the already uneven global distribution of wealth and well-being are as telling as they are striking (see Figure 5). Climate change threatens to compound existing patterns of international inequality.

FAST FACT

According to the IPCC, the current changes in climate are driven mostly by the increase in global temperatures since the mid-20th century, and are due to an increase in GHG concentrations stemming from the activities of a rising and increasingly urbanized global population.

Figure 3. The Four Storylines Underpinning IPCC’s Emissions Scenarios

<table>
<thead>
<tr>
<th>Economic emphasis</th>
<th>Regional emphasis</th>
<th>Environmental emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 storyline</td>
<td>World: market-oriented</td>
<td>World: differentiated</td>
</tr>
<tr>
<td>Economy: fastest per capita growth</td>
<td>Economy: regionally oriented, lowest per capita growth</td>
<td></td>
</tr>
<tr>
<td>Population: 2050 peak; then decline</td>
<td>Population: continuously increasing</td>
<td></td>
</tr>
<tr>
<td>Governance: strong regional interactions; income convergence</td>
<td>Governance: local and regional solutions to environmental protection and social equity</td>
<td></td>
</tr>
<tr>
<td>Technology: three scenario groups</td>
<td>Technology: more rapid than A2; less rapid, more diverse than A1/ B1</td>
<td></td>
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<tr>
<td>* A2F: fossil intensive</td>
<td>* A2T: non-fossil energy sources</td>
<td></td>
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<td>* A1: balanced across all sources</td>
<td></td>
<td></td>
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<tr>
<td>B1 storyline</td>
<td>World: convergent</td>
<td>World: local solutions</td>
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<tr>
<td>Economy: service and information based; linear growth than A1</td>
<td>Economy: intermediate growth</td>
<td></td>
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<tr>
<td>Population: same as A1</td>
<td>Population: continuously increasing</td>
<td></td>
</tr>
<tr>
<td>Governance: global solutions to economic, social and environmental sustainability</td>
<td>Governance: local and regional solutions to environmental protection and social equity</td>
<td></td>
</tr>
<tr>
<td>Technology: clean and resource-efficient</td>
<td>Technology: more rapid than A2; less rapid, more diverse than A1/ B1</td>
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<tr>
<td>A2 storyline</td>
<td>World: fossil intensive</td>
<td>World: convergent</td>
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<tr>
<td>Economy: fossil intensive</td>
<td>Economy: intermediate growth</td>
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<td>Population: continuously increasing</td>
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<td>Technology: less rapid, more diverse than A1/ B1</td>
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<tr>
<td>B2 storyline</td>
<td>World: service-based; lower growth than A1</td>
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<td>Economy: service and information based; linear growth than A1</td>
<td>Economy: local solutions</td>
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<td>Technology: clean and resource-efficient</td>
<td>Technology: more rapid than A2; less rapid, more diverse than A1/ B1</td>
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</table>

FAST FACT

The retreat of glaciers and large-scale reductions in sea cover observed over recent decades are projected to accelerate throughout the 21st century, reducing water availability, hydropower potential, and changing seasonality of river flows in regions supplied by melt water from major mountain ranges (e.g., Hindu-Kush, Himalaya, Andes). These regions are currently home to more than one-sixth of the world’s population.
However, it is important not to present too stylized a dichotomy between the rich and poor worlds. There are middle income (e.g. oil-producing) countries with per capita emissions equal to or higher than those of OECD countries, and highly populous developing countries with sharply rising per capita emissions. Countries in both these categories also include many millions of people who are highly vulnerable to the consequences of climate change. While it may appear convenient to characterize climate change mitigation as being primarily the responsibility of rich countries and adaptation the chief concern of poor countries, things are not quite so simple. Vulnerability to climate change, viewed first and foremost as a development challenge, cuts across national borders.

**Fairness in Mitigation and Adaptation**

Article 2 of the 1992 United Nations Framework Convention on Climate Change (UNFCCC) requires ‘stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system... allow ecosystems to adapt naturally, ensure food production, and allow sustainable economic development’. What constitutes ‘dangerous’ in this context is a value-judgment determined by socio-political processes and informed by constantly evolving scientific, technical and socio-economic information. But deepening understanding in recent years has moved in the direction of favoring more rather than less urgent action on mitigation, and a powerful economic as well as ethical case for doing so has also emerged.

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**Left panel** - The chart shows global averages of surface warming (relative to 1980-1999) for three of the scenarios in the Special Report on Emissions Scenarios (SRES) A2, A1B and B1. The pink line projects the result of concentrations being held constant at year 2000 values (IPCC 2000).

**Vertical bars** - The vertical bars to the right indicate the likely range for surface warming, with the bands in the middle indicating the best estimate for all six SRES marker scenarios at 2090-2099 relative to 1980-1999.

(Source: IPCC, 2007)
Framing the Issue: Climate Change and Social Justice

"We need a long-term global regulatory framework, involving all major emitters, with an equitable – and I really stress equitable – allocation of responsibilities."

– Bob Watson

Taking strong mitigation action is both good economics and consistent with aspirations for growth and development in poor and rich countries. Although many uncertainties remain, and assumptions on discounting and risk aversion strongly affect the results, aggregate estimates of the economic costs of the impacts of unmitigated climate change range from 5-7 percent (if market impacts alone are taken into account) to 11-14 percent of annual GDP (including broader, non-market impacts). The Stern Review contrasted these estimates with the expected costs of taking actions to cut emissions. The expected costs of reducing emissions consistent with a mid-range stabilization trajectory are in the order of 1 percent of GDP a year, even without taking into account additional economic benefits such as energy access, energy security, or air quality.

In terms of tackling the causes of climate change – or mitigation – a social justice perspective emphasizes the need for an equitable sharing of responsibility for reducing greenhouse gas emissions among nations. This should be based on an acknowledgement of the highly unequal distribution of past, present and projected future emissions among them. This is what lies behind the Kyoto Protocol’s guiding doctrine of ‘common but differentiated responsibility’. While making the transition to a low-carbon economy is necessary in low and middle income countries as well as in the developed world, access to affordable energy for the poor is a prerequisite for poverty reduction and sustainable economic growth. There are also questions regarding the social sustainability of some low-carbon technologies such as hydropower and first-generation biofuels. Taking all these issues into account, the short-run political challenge in the context of the ongoing UNFCCC negotiations is to decide who should reduce emissions and by how much.

In terms of tackling the consequences of climate change – or adaptation – a social justice perspective emphasizes that those whose lives and livelihoods are most vulnerable to the

Figure 5. Emissions and Vulnerability to Climate Change

(Source: Adapted from SEG 2007)
consequences of climate change and have contributed the least to its root causes, should receive preferential support. This should be an integral part of and in addition to existing efforts to reduce poverty and attain the Millennium Development Goals. Adaptation measures include long-term planning for infrastructure (water supply, buildings, transport) and land use (flood management, conservation), streamlining legislation to avoid mal-adaptation (e.g. removing perverse incentives caused by farm subsidies, skewed water pricing or inappropriate regulatory frameworks for land-use planning), planning for on- and off-site disaster risk reduction and ex-post disaster response and recovery, and social policy measures including the development of social protection systems (including various forms of personal and asset insurance), adaptation of public health priorities, and support to populations with special needs (including migrants). Such measures need to be mainstreamed into sector and national economic planning while recognizing the aspirations of local communities and enabling them to adapt.

A Rights-Based Approach to Climate Change

A persuasive case is beginning to be made that climate change also poses threats to human rights and that the international human rights architecture is relevant to addressing climate change. In March 2008 the United Nations Human Rights Council adopted a Resolution on Human Rights and Climate Change and called on the Office of the High Commissioner for Human Rights (OHCHR) to conduct a study into the human rights implications of climate change. Although a specific human right concerning the environment has not yet been elaborated in a binding international convention, the fundamental right to an environment capable of supporting human society and the full enjoyment of human rights is recognized, in varying formulations, in the constitutions of over one hundred states and directly or indirectly in several international instruments. Climate change is now accepted as the most immediate and far-reaching threat to the environment. Consequently there is a growing concern that global warming will impact the full enjoyment of accepted human rights including the right to life, the right to take part in cultural life, the right to use and enjoy property, the right to an adequate standard of living, the right to food; and the right to the highest attainable standard of physical and mental health.

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A rights-based approach holds considerable promise for injecting urgency and ambition into global climate action while safeguarding the most vulnerable in society. By focusing on equity and social justice, a rights-based approach offers both a compelling moral and ethical argument for action and a more authoritative basis for advocacy. It also helps to give voice to vulnerable groups since human rights, by design, focus on the most vulnerable people on the planet. Moreover, by drawing on a body of human rights conventions, shared international laws, principles and values stretching back more than sixty years, a rights-based approach could harness well-established technical, policy and legal instruments in new ways to address climate change. There is a great deal of scope, and how these effects are likely to get progressively worse over the coming years. A similar process has already been launched by the Organization of American States (OAS). Together, these resolutions have been supported by more than 80 nations, highlighting the large-scale political will for further examination of this linkages.

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Table 1. Possible Human Rights Implications of Climate Change.

<table>
<thead>
<tr>
<th>Natural Impacts of Climate Change</th>
<th>Impacts on Human Systems</th>
<th>Rights Implicated</th>
<th>International Conventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature issues</td>
<td>Increased water insecurity</td>
<td>Life, Health</td>
<td>United Nations Universal Declaration on Human Rights (1945) (e.g. Article 3 - “everyone has the right to life, liberty and security of person”).</td>
</tr>
<tr>
<td>Risks of extreme weather events</td>
<td>Increased health risks/ fatalities</td>
<td>Means of subsistence</td>
<td>International Covenant on Economic, Social and Cultural Rights (1966) (e.g. Article 12 - “The State Parties... recognize the right of everyone to enjoyment of the highest attainable standard of physical and mental health.”)</td>
</tr>
<tr>
<td>Threats to unique systems</td>
<td>Changes in livelihoods</td>
<td>Adequate standard of living</td>
<td>International Covenant on Civil and Political Rights (1966) (e.g. Article 12 - “In no case may a people be deprived of its own means of subsistence.”)</td>
</tr>
<tr>
<td>Changes in precipitation patterns and distribution of water</td>
<td>Effects on the wider economy</td>
<td>Self determination</td>
<td>Optional Protocol to the International Covenant on Civil and Political Rights Convention on the Elimination of All Forms of Discrimination Against Women (1979) (e.g. Article 34 - “State Parties shall take into account the particular problems faced by rural women.”)</td>
</tr>
<tr>
<td>Threats to biodiversity</td>
<td>Changes in agricultural productivity and food production</td>
<td>Water, Culture, Property</td>
<td>Convention on the Rights of the Child (1989) (e.g. Article 6 - “State Parties shall ensure to the maximum possible extent the survival and development of the child”).</td>
</tr>
<tr>
<td>Sea-level rises, flooding and storm surges</td>
<td>Threats to security/ cohabition</td>
<td>Education, Property</td>
<td></td>
</tr>
<tr>
<td>Large scale singularities</td>
<td>Effects on human settlements, land and property</td>
<td>Adequate and secure housing, Gender, children’s and indigenous rights</td>
<td></td>
</tr>
</tbody>
</table>
This is particularly important in the context of climate change as some of the projected impacts will be difficult if not impossible to remedy and redress. Highlighting the importance of adaptation, then, is no excuse for failing to act urgently and ambitiously on the issue of mitigation. A balanced approach is needed, paying equal attention to both.

This section has highlighted numerous ways in which climate change needs to be viewed through a social justice lens. Global inequality in patterns of consumption emerges clearly as an intrinsic feature of climate change as a human-induced phenomenon. It is as relevant to understanding the uneven distribution of responsibility for the causes of climate change as to the asymmetrical impacts of climate change. A moral and ethical imperative follows from this analysis that highlights the obligations of richer countries both to reduce emissions rapidly and provide adaptation support to poor countries. Within poor countries, a social justice perspective highlights the need for priority to be given to the poorest and most vulnerable groups in adaptation support, and for careful attention to be paid to ensuring that vulnerable groups benefit from rather than being left even worse off through measures to reduce greenhouse gas emissions. Table 2 offers a way to apply a social justice filter in linking the characteristics of climate change to their implications for social policy and action. However, the examples given here are merely illustrative rather than exhaustive. A number of them are discussed in further detail in the sections to follow.

for example, to examine how upholding important procedural rights – including access to information, decision making and justice – could help to promote social inclusion and accountability in climate action. Perhaps most important of all, a rights-based approach helps to identify duties and obligations. Under international law, governments are required to respect, protect and fulfil their human rights obligations. In order to respect and protect rights, states must refrain from interfering with people’s enjoyment of their rights. They must also prevent people’s rights from being violated by third parties (such as by individuals, companies or other countries). In order to fulfil rights, states must take action to enable the full realization of people’s rights. This could be interpreted as requiring states to focus their adaptation measures on the most vulnerable communities within their jurisdiction.

It is important that a rights-based approach deal with inequities between countries as well as impacts on rights within countries. Those who are immediately vulnerable to climate change have contributed little to its causes. They also lack the adaptive capacity to deal with its consequences. As a result, rights-based approaches advocate for substantial additional resources in support of climate-change adaptation, preferably on grant rather than merely concessional financing terms, beyond-counting commitments. But a rights-based approach should not be viewed as an ‘end of pipe’ instrument, coming into effect only when a right is violated, justly revenged, and an abuser identified. The best approach to human rights is one that establishes processes to ensure that violations never take place.

**Climate Change as a Human Rights Issue in the Maldives**

“If IPCC projections on sea level rise and associated climate impacts prove to be accurate, a child born in the Maldives today may not have the opportunity to live out her life in the country of her birth. For much of the world the climate impacts seem like abstract threats that lie waiting in a distant future. For the people of the Maldives the evidence is all around us. Storm surges and coastal erosion already cause loss of homes, pose dangers to infrastructure and utilities, and divert limited resources from strategic development to a cycle of destruction and reconstruction. Rising ocean temperatures, coupled with the growing acidification, is already destroying our prized coral reefs – the very lifeblood of our economy. This threatens our tourism and fishing industries, potentially undermining forty percent of our GDP and more than forty percent of our workforce. This would set our development back decades. The unprecedented development in the Maldives during the past three decades means that this generation is the most fortunate to have ever lived on the islands. If we do not act quickly, this generation may also be the most fortunate one that ever will. For in the long term it is not our development but our very existence as an island nation that is threatened.”

Her Excellency Dunya Maumoon, Deputy Foreign Minister of the Republic of the Maldives (Keynote address)
Table 2. Climate Change, Social Justice and Policy Action Matrix

<table>
<thead>
<tr>
<th>Climate Change Characteristics</th>
<th>Social Justice Perspective</th>
<th>Implications for Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHG emissions correlate with wealth and growth.</td>
<td>Responsibility for climate change lies primarily with richer people in richer countries.</td>
<td>Need to build global solidarity and momentum for climate action. Developed countries have an ethical obligation to rapidly provide adaptation support to poor people in poor countries. Climate mitigation should not constrain energy access for poor people, or the growth paths of poor countries.</td>
</tr>
<tr>
<td>Climate change impacts differ according to people’s power, wealth and the level of dependency on natural resources.</td>
<td>The brunt of climate change impacts is borne by poor people in poor countries. They should receive preferential access to adaptation support. Women will be disproportionately impacted by climate change. This is because social exclusion is strongly gendered in ways that increase vulnerability to climate change for women. Indigenous People are among the poor-est and most socially excluded people globally. They rely on ecosystems particularly prone to the effects of climate change including polar regions, humid tropics, high mountains, small islands, coastal regions, and semi-arid deserts.</td>
<td>There is a compelling need to understand the social dimensions of vulnerability by examining the assets, knowledge, institutions and relationships that different groups have to help them cope with external threats. People can be more or less vulnerable according to age, ethnicity, caste, gender roles, their sources of livelihood, ability to access public support or ability to migrate. An understanding of social difference needs to be translated into guarantees that their enjoyment of fundamental human rights will not be compromised by climate change impacts.</td>
</tr>
<tr>
<td>Climate change will worsen water scarcity in many parts of the world through changes in rainfall patterns, glacial and snow melt, and rising salinity in low-lying coastal areas.</td>
<td>Poor people will be most severely affected as they have less capacity to extract and store water. Women in many contexts will see an increase in their labor burdens as they have primary responsibility for collecting water in many parts of the world.</td>
<td>Investments in water resources need to take account of the specific needs of poor people, particularly women, and build on local people’s knowledge and priorities.</td>
</tr>
<tr>
<td>Extreme weather events will become more frequent, with serious implications particularly for coastal areas (tyrness, storms, surges).</td>
<td>Poor people’s rights to carbon assets - whether ownership or use and access rights - are critical to dignity and livelihood.</td>
<td>Technological innovations and shifts in market incentives in the North can have rapid and sweeping effects on the livelihoods of vulnerable people in the South (e.g. the move to biofuels, and resulting upward pressures on global food prices).</td>
</tr>
</tbody>
</table>

- **Social Justice Perspective:**
  - Poor people tend to be more vulnerable to injury, death and destitution as a result of extreme weather events. For example, urban poor in informal slum settlements line in less robust structures, tend to be unprotected by heavy infrastructure defenses, may be invisible, and lacking in access to information. Women are frequently more vulnerable to death and injury from cyclones and extreme weather events (owing to behavioral restrictions on mobility, restrictive dress codes, lack of information).
  - ’Carbon assets’ (trees, peat marshlands, rangelands etc) will be increasingly valued for their carbon sequestration properties in the struggle to contain and mitigate climate change. Poor people’s rights in carbon assets - whether ownership or use and access rights - are critical to dignity and livelihood. Developed countries will increasingly seek to mitigate climate change through technological innovation. Technological innovations and shifts in market incentives in the North can have rapid and sweeping effects on the livelihoods of vulnerable people in the South (e.g. the move to biofuels, and resulting upward pressures on global food prices).

- **Implications for Action:**
  - A range of actions are needed to empower the vulnerable, enhance their resilience in the face of threats from extreme weather events, including: Enhanced information to make good choices about location and movement in the face of weather threats. Enhanced tenure rights for housing to provide incentives to strengthen structures. Enhanced rights for women to ensure that they have access to information and skills which will aid survival. Robust and accountable policy and institutional frameworks need to be established to protect poor peoples’ rights in carbon assets and maximize the income streams they can derive from those assets. Mitigation measures should be robustly analyzed ex ante to ensure that they do not cause damage to vulnerable people’s livelihoods. Technological innovation should also capitalize on local people’s knowledge rather than being regarded as a one-way transfer from North to South.
Putting Poor People First: Who is Affected and How?

A second common theme emerging from the workshop was the need to put poor people first in the climate change debate. The effects of climate change are already being felt by many of the world’s poorest and most vulnerable people, and future changes are already unavoidable for many millions more. A first step towards knowing how to help people adapt to the inevitable is to understand who is affected and how.

At a broad level of generalization, poor people in developing countries are more likely to depend directly on climate-sensitive sectors such as agriculture, forestry and fishing for their livelihoods and are therefore more exposed to the impacts of climate change than are people in the developed world. People living in developing countries are also generally closer to the margin of tolerance to changing precipitation patterns, increased climate variability and extreme weather events than those living in developed countries, and therefore more vulnerable to their effects.

These factors contribute to the challenges of livelihood security facing many of the world’s most vulnerable people.

“The role of the World Bank is to help amplify the voice of the most vulnerable and make sure that it is heard in the corridors of power.”

– Kristalina Georgieva
Putting Poor People First: Who is Affected and How?

They include pastoralists and agro-pastoralists living in the world’s drylands, vulnerable to increasing climate variability and changing means of temperature and precipitation. The inhabitants of low-lying, small island development states are highly vulnerable to sea-level rise and to the effects of coral bleaching on their economically important fishery and tourism sectors. Fishers and high fish processors in coastal zones are among the most vulnerable groups in many developing countries, facing the loss of their major source of protein, and frequently having the lowest levels of human capital, the least transferable skill mix, and no access to land which would provide an alternative or secondary livelihood source. Poor people living in highly populous cities in low-lying deltas and coastal zones of developing countries are vulnerable both to sea-level rise and to flooding from storm surges. And those living in rural communities and major cities downstream of high-altitude glaciers in the Himalaya, Andes, Hindu-Kush and other high mountain regions are vulnerable to the loss of glacially regulated water resources for agriculture and drinking water. But in all geographic settings that are highly exposed to climate hazards, people are differently vulnerable, whether as a result of their settings that are highly exposed to climate hazards, people are differently vulnerable, whether as a result of their sources of livelihood, levels of income and asset holdings, social class, gender, age, ethnicity, caste, access to public support, or ability temporarily or permanently to migrate in search of economic opportunities.

Just as levels and forms of vulnerability to the effects of climate change vary, so too does the capacity for societies to adapt to the changes that they will face. The adaptive capacity of developing countries is generally constrained by the limited availability of technology, weak institutional capacity, low levels of education, and inadequate financial resources. Other factors such as poor nutrition patterns and weak health infrastructure further contribute to higher losses of human life in developing countries due to climate change. The ways in which formal and informal social institutions interact is also thought to have an important bearing on societal resilience to extreme weather events, and possibly to slower-onset changes in climate as well. Social policy supporting gender inclusion and freedom of civic associations, for example, combined with freedom of access to information and justice, have been observed to improve environmental performance and research is currently under way to explore whether similar relationships hold in the case of mortality from extreme weather events. Overall, more research is needed to explore the contributory role of social institutions to societal resilience in the face of climate change.

Indigenous Peoples

Indigenous Peoples are extremely vulnerable to the impacts of climate change, given that they often live in environmentally sensitive areas (e.g., the arctic region, tropical forests, coastal zones, mountains, deserts, etc.), and depend primarily on their surrounding biodiversity for subsistence as well as cultural survival. At the same time, Indigenous Peoples hold knowledge that may be extremely valuable for climate change adaptation. There is a need therefore to build on peoples’ knowledge and assist in developing strategies to adapt to changing environmental conditions and address the specific needs of indigenous communities in managing climate change.

Indigenous Peoples account for 5 percent of the world’s population, yet they protect and care for 22 percent of the Earth’s surface, 80 percent of remaining biodiversity, and 50 percent of cultural diversity on the planet. They are also among the poorest and most socially-excluded people in the world. Indigenous people are found in ecosystems particularly prone to the effects of climate change including polar regions, humid tropical forests, high mountains, small islands, coastal regions, and arid and semi-arid deserts. Owing to their heavy dependence on their local environments as a source of livelihood, they are disproportionately affected both by climate change and by climate action. For example, the Chair of the United Nations Permanent Forum on Indigenous Issues has warned that 60 million indigenous people worldwide are at risk of displacement due to biofuel plantations.

However, it is important that Indigenous Peoples not be seen merely as victims. Instead, they should be recognized as repositories of traditional ecological knowledge passed down over many generations which has enormous potential to complement and enrich existing scientific knowledge of climate change. In the words of indigenous activist Sheila Watt-Cloutier, “Indigenous world is so under-utilized for its intelligence and its wisdom because oftentimes it is seen as the victim of globalization. Yet we forget the absolute ingenuity of indigenous culture.” While by no means immune to destabilizing shocks and stresses, Indigenous Peoples have evolved customary institutions, rules and practices that help to ensure a sustainable relationship between society and the land and natural resources they so directly depend on.
Indigenous Knowledge And Climate Change Adaptation

Workshop participants offered numerous examples of ways in which indigenous knowledge can help deepen understanding of climate change and its impacts on the livelihoods of Indigenous Peoples. In the Arctic, for example, Inuit and other peoples of the circumpolar region have long been familiar with ways of sensing when sea ice is safe to travel, which is essential in seal hunting. Observed changes in the quality of sea ice – e.g. becoming less salty, easier to chop, or breaking up sooner in the summer – are all indicators of a changing climate, and this knowledge that saves lives. Equally, locally observed shifts in the migratory habits of caribou, cranes and whales may be linked to those in the weather, seasons, and wind patterns. Scientific observations corroborate local people’s observations that such changes may be triggered by seasonal cues such as changes in day length, air temperature, and ice thickness.

Across the Andes in Peru and Bolivia, Indian farmers use the particular appearance of the Pleiades – a star cluster in the constellation Taurus – to forecast the timing and quantity of precipitation in the rainy season, months later. They observe the stars as part of the festival of San Juan, each June 24th, and make planting decisions accordingly. Elevation and climate impose tight constraints on agriculture in this region, and farmers need to plant potatoes to coincide with the start of the rains in order to plant potatoes to coincide with the start of the rains in order to reach agreement on the date of planting, which gives them a powerful motive to learn the nature of the coming rainy season. Scientific research has confirmed the accuracy and causal relationships underlying these farmers’ seasonal forecasts. Potato yields are observed to vary inversely with the intensity of El Niño conditions, which alter the prevailing winds such that the humid air that normally brings rain is prevented from traveling up into the highlands. El Niño conditions also lead to an increase in thin, high cirrus cloud cover during the late June, which causes the Pleiades to appear dimmer than usual. The correlation between high cirrus clouds in late June and precipitation in the following rainy season corresponds to a forecast accuracy of around 65%, which exceeds modern scientific forecasts with similar lead times.

In Mongolia too, nomadic herders’ observations of the weather have been shown to complement scientific meteorological observations in ways that help deepen understanding of climate change. Herders’ knowledge highlights parameters that are of most relevance for livestock production and management, on which their livelihoods depend. They include the spatial scale or patchiness of precipitation – known as torguoi hii hoo, or ‘soft embroidery rain’, after the customary pattern of embroidery on the deel, or tunic traditionally worn by herders – and the timing and intensity of precipitation. Herders distinguish between ‘soft’ and ‘hard’ rain, the latter being less effective in providing soil moisture for pasture grasses since more is lost to surface runoff. Patchy rain implies more frequent movements between pastures, which comes at a cost in terms of animals’ energy expenditure. Late rains shorten the summer growing season, with July rains being most critical. Instrumental meteorological records such as daily precipitation and average wind speed are limited by the spatial coverage of weather stations, and while consistent with herders’ own observations, may not pick up on those aspects of changing weather patterns that are of most relevance in guiding herders’ adaptation to climate change. Closer articulation of herders’ indigenous knowledge and scientific knowledge systems would help deepen understanding so as to better inform early warning and drought contingency planning systems, among other community-based approaches to reducing the vulnerability of herders’ livelihoods to climate risk. Current downscaled climate projections are too coarse a level of resolution to allow for this, or focus on climate parameters of little relevance for herders’ land and livestock management practices.

Despite possessing this knowledge, Indigenous Peoples have traditionally been excluded from the discussion and debate around the science and impacts of climate change on ecological and human systems. Rather than capitalizing on these wealths of ecological knowledge, discussions on mitigation of greenhouse gas emissions and ways to strengthen adaptive capacity have paid little heed to Indigenous Peoples. In fact, many proposed mitigation measures have the potential inadvertently to undermine the customary rights to lands and natural resources of Indigenous Peoples. This injustice can only be addressed through the recognition of Indigenous Peoples’ rights and customary land and resource tenure, and their inclusion as key partners and decision makers in the design and implementation of mitigation and adaptation interventions at the global, national and local levels.

Among such mitigation measures currently being considered, for example, are approaches to reduce emissions from deforestation and forest degradation (REDD), including payments for carbon held in sustainably managed and conserved forests under mechanisms such as the World Bank’s Forest Carbon Partnership Facility (FCPF) and the United Nations’ REDD mechanism. Much more work is needed, however, to design fair and equitable governance arrangements for forest carbon trading schemes, including clarifying tenure, property and carbon rights. If they are to succeed, REDD initiatives need to be viewed within the wider context of efforts to promote sustainable forest management, involving indigenous and other forest people as active stewards of their forest environment, and removing barriers to transparent, inclusive, and accountable forest governance. Consultations on FCPF design and implementation arrangements are currently under way within a view to enabling Indigenous Peoples to participate as full partners based on recognition of their rights and customary tenure.
Reducing Emissions from Deforestation and Degradation (REDD)

At the 13th UNFCCC Conference in Bali, it was agreed to consider REDD (Reducing Emissions from Deforestation and Degradation), which may reduce overall effectiveness in achieving global emissions reductions.

Essential to all REDD schemes is to ensure that the price signals do in fact create the needed incentives for forest conservation and management, and that flows of carbon finance reward the ‘right’ people. The drivers of deforestation lie both within and outside the forest sector. It is imperative that REDD schemes reward those who have demonstrated that they can protect and sustainably manage forests, rather than those responsible for deforestation through illegal logging or, for example, by subsidizing oil palm plantations or pulp and paper mills. Effective forest governance is therefore widely regarded as the key to success, although experience over several decades of development-related interventions in the forest sector suggests that this is likely to be an elusive goal.

Rights and equity: Indigenous and other forest dependent peoples, accounting for at least 100 million people, are among the world’s poorest and most vulnerable groups, and lack effective representation in national politics or in international climate negotiations. Their customary rights to forests and forest land may not be legally recognized within their own countries, or may overlap with the claims of other, often politically more powerful actors. REDD schemes may inadvertently increase the risk that rights to forests and forest land may not be legally recognized within their own countries, or may overlap with the claims of other, often politically more powerful actors. REDD schemes may inadvertently increase the risk that forest-dependent communities will lose out to other actors, and that future carbon and emissions reductions will culture. REDD schemes may inadvertently increase the risk that forest-dependent communities will lose out to other actors, and since rights to carbon are usually even less clear than land rights, local communities fear that they may see few or none of the benefits from forest carbon that REDD potentially offers.

There are numerous technical challenges in the design and implementation of REDD, which need to be discussed in detail here. These include, for example, issues of permanence and leakage— that is, ensuring that emissions reductions from reducing deforestation are durable and that reductions in one context are not brought about at the expense of higher deforestation elsewhere. The scale and rate of deforestation is relevant here too; it is essential to focus on the country level rather than at the level of individual projects, since it may be difficult to avoid issues of leakage through a piecemeal, project-based approach.

What are the challenges?

In addition to these definitional problems, there are a number of other challenges in ensuring that REDD achieves its intended emissions reduction objectives at a global scale while also benefiting those within developing countries who depend most on forests for their livelihoods.

There are also disagreements over the source of funds for REDD. Some argue that they are more likely to allow developed countries to offset their own direct emissions with emissions reductions in forest-rich countries, which may reduce overall effectiveness in achieving global emissions reductions.

What is REDD?

The core idea underlying all REDD’s proposals is to put a price on the stock of carbon held in forests, as a form of payment for environmental services (PES), which is used to create incentives for forest conservation and sustainable forest management. This recognizes that carbon now has a market value, and is already internationally traded under a range of voluntary carbon trading schemes. It also requires that a credible baseline can be established for existing forest cover, which can be translated into an amount of carbon, and that changes in this carbon stock over time can be accurately monitored.

REDD covers a number of proposed approaches, each of which appeals to a different set of constituencies. Some are restricted to areas of high carbon density, others to areas where there are high rates of deforestation. Some are restricted to areas managed by national governments, others to areas managed by local communities. Some are restricted to areas of high biodiversity, others to areas of high carbon density. There are a number of other challenges.

Social Dynamics, Cohesion and Resilience

Gender

Current discussions on climate change pay scant attention to the significant ways in which climate change impacts and adaptation practices are gendered. The combination of economic disadvantage, limited access to resources, a dependency on male family members, and a lack of power in decision-making are factors that often mean that women are a particularly vulnerable group. Women are and will be disproportionately impacted by climate change, and will need gender specific adaptation strategies and action. This is because social exclusion is strongly gendered in ways that increase vulnerability to climate change for women and girls.

For example, women typically outnumber men by fourteen to one among those dying from natural disasters14. Reasons for this are numerous: these are often culturally and traditionally gendered, and may be determined by factors such as the need to care for children without regard for their own safety. Climate-induced storm surges will have similar impacts.”

“Women are often very vulnerable and consequently one of the most affected groups. In the tsunami of Indonesia, Sri Lanka, and India, mortality rates of women were 3–4 times higher that of men because many women had not learnt to swim due to social norms or they were trying to save their children without regard for their own safety. Climate-induced storm surges will have similar impacts.”

— Lorena Aguilar, IUCN
Putting Poor People First: Who is Affected and How?

Engendering international negotiations on climate action

In the short term, a number of tangible steps can be taken to ensure that issues relating to gender are more effectively integrated into climate action, including:

- Analyzing and identifying gender-specific needs, impacts, protection and support measures related to floods, droughts, heat waves, diseases and other environmental changes and disasters;
- Guaranteeing that women, especially grassroots women, and gender experts participate in all decisions related to climate change;
- Taking action to ensure UNFCCC compliance with human rights frameworks and international and national commitments on gender equality and equity, including the Convention for the Elimination of All Forms of Discrimination against Women (CEDAW);
- Supporting the development of a gender strategy or plan of action within the UNFCCC;
- Establishing a system for the use of gender-sensitive indicators and criteria for governments to use in national reporting to the UNFCCC Secretariat, as well as a series of gender-responsibile criteria for programs/projects needed to be developed, adapted to suit the varying requirements of different instruments and actors (see Box below).

The Urban Poor

Urban centers in low- and middle-income countries concentrate a high proportion of those most at risk from the effects of climate change. Poor people tend to live in the interstices of such urban landscapes – in informal settlements, on steep slopes, along riverbanks and floodplains. Security of land tenure is often precarious, and the poor lack the resources to invest in more protective forms of shelter. They see their lives, assets, environmental quality and future prosperity threatened by the increasing risk of storms, floods, landslides, heat waves and droughts. Water, drainage and energy supply systems are either absent or unable to cope with the increasing strains being placed on them.

Extreme weather events are among the most immediate threats to the urban poor in the developing world, and climate action in such settings needs to be approached in this context. But urban inhabitants are differently vulnerable to these climatic and environmental hazards, depending on their assets and capabilities, which in turn are strongly influenced by income, age, and gender. Understanding these differences and the synergies with a poverty reduction agenda is key to tailoring approaches to pro-poor adaptation with the aim of strengthening and protecting assets and capabilities at individual, household and community levels.

There are two main reasons why strengthening and protecting the assets and capabilities of individual people, households and communities is of far greater importance in developing than in developed countries. First, there are limitations in the capacity of municipal governments to support adaptation through the provision of protective infrastructure and services to low-income populations. Second, many municipal governments in developing countries are unwilling to work with low-income groups, especially those living in informal settlements who are often viewed as illegal squatters. Overcoming these barriers and enabling poor communities and municipal governments to work in partnership with one another is key to effective climate action in such settings.

Public support to build adaptive capacity needs to be tailored to meet the needs of vulnerable groups during these distinct phases: pre-disaster risk assessment, immediate post-disaster response, and longer-term recovery from a risk episode. Common elements across all these stages are the need to increase the capacity of communities to make demands on municipal government for public support in providing protective infrastructure and services, and to increase the capacity of these local governments to respond. Strengthening the asset base of households and communities is therefore a key means of building more competent, accountable local governments. But the converse is also true: increasing demand for better governance is also a key means of strengthening the assets and adaptive capacity of poor households and communities.

disasters are directly linked to women’s economic and social rights. Rural women will become more vulnerable due to their dependency on agriculture and natural resources, as these get affected by climate change. They may be forced to migrate to urban areas, mostly in slums where the situation can be worse due to crime, violence, conflict and most importantly lack of supportive social institutions.

At the same time, women’s activities have a different impact on climate change than men’s. Climate change mitigation and adaptation instruments will affect men and women differently, and women and men differ concerning their respective perceptions of and reactions to climate change; and women are often excluded from discussions concerning appropriate energy and climate related technology transfers.

A critical sector in the climate change debate is forests. Women and men use forest resources in different ways. Men are often involved in timber extraction and the use of non-timber products for commercial gain, while women rely more on non-timber forest products and are more dependent on intact forests. Women therefore are often disproportionately affected by deforestation and have a stronger interest in forest preservation.

As in the case of Indigenous Peoples, women are not simply victims in the face of climate change; they are powerful agents of change and active managers of common-pool and household resources, due to their ‘triple roles’ in productive, reproductive, and community managing activities. But women have not so far been afforded an equal opportunity to participate in decision making related to climate adaptation and mitigation policies at the international and national levels, and gender has been conspicuously absent from UNFCCC deliberations. The policy debate fails to take into account the practical and strategic needs of women. Harnessing women’s influential leadership skills and experience in community revitalization and natural resource management should be a priority in designing and implementing climate change adaptation and risk-reduction strategies (see Box below).
People in Rural Drylands

Over 2 billion people – 50 percent in developing countries – live in rural drylands that are characterized by a high degree of climatic variability and are highly susceptible to climate change. Dryland communities are also among the world’s poorest, fastest growing, and politically least well represented populations. They include pastoralists, agro-pastoralists, and those primarily dependent on rainfall agriculture. Climate variability has long been a fact of life for those living in drylands, and in many ways they are well adapted to an unpredictable variable environment. Their livelihoods and social institutions tend to be inherently oriented towards climate adaptation through flexible, ex ante strategies to reduce vulnerability, such as herd mobility, livelihood diversification, household splitting, migration, and traditional mechanisms for managing the conflicts that invariably result over competition for scarce resources.

In addition to flexible livelihood strategies in situ, the strategies pastoralists and agro-pastoralists adopt for coping with and adapting to climatic variability often range much further afield. For example, pastoralists in East Africa and the Horn of Africa export livestock and livestock products to the Gulf states and throughout the Middle East region. Long distance migration to urban centers is also commonly practised, on a seasonal or longer-term basis, including forms of household splitting involving household members maintaining a permanent base in urban and rural areas, and sometimes even across international borders through migratory diasporas. These phenomena have been observed among pastoral communities in West Africa, Mongolia, and elsewhere. As in the case of the urban poor in developing countries, levels of adaptive capacity vary according to the assets and capabilities of individuals, households and communities. Only those households with sufficient human capital resources can afford to split or maintain dual or multiple bases, for example, which in turn is related to age or stage in the lifecycle of the household.

The current state of knowledge does not allow for accurate downscaled predictions of how climate change in arid and semi-arid lands is expected to translate into drying and warming trends at regional, country and local levels. While highly uncertain, it is possible, for example, that parts of West and East Africa and South Asia may see an increase in rainfall. But climate change threatens to significantly alter the degree of variability, and the frequency with which highly unusual events occur, as evidenced by the unprecedented floods in pastoral areas of Ethiopia and northern Ghana in recent years. Such events could strain existing adaptive capacities beyond their ability to cope.

Inhabitants of drylands themselves often stress that rainfall patterns have become less predictable in recent years. This makes it hard for farmers to time planting and other key decisions in the yearly cycle. The same amount of rain can be a lot less useful if it falls at the wrong time, so variability is a key issue.

It is well known that vulnerability to the vagaries of the climate in dryland areas is often exacerbated by non-climate stressors such as insecurity of land and property rights, disease, and conflict. Many drylands lie along the peripheries of nation-states, and dryland communities commonly move across national borders in search of pasture, water, and trading opportunities. Land tenure and rights are usually unclear – in part by design, since a certain degree of flexibility helps facilitate the mobility that is essential in coping with climate variability – but often also hotly contested, suggesting limits to such managed flexibility. Such border regions are also often hotspots for armed conflict, and the weak political integration and representation of pastoral groups in their own states often leaves them unprotected and vulnerable to violence.

Traditional forms of livestock raiding have long been practiced among pastoral groups, such as those in northern Kenya, southern Sudan and Ethiopia, and north-eastern Uganda. They had a certain redistributive logic, and played an important role in the initiation rites of young adult males. But these forms of raiding have recently become embedded in the wider geopolitics of this contentious region, and the scale availability of automatic weaponry as a result of armed conflicts has spilled over resulting in unprecedented levels of mortality in new and increasingly predatory forms of livestock raiding. Increasing climate variability and change could interact with underlying phenomena such as these to produce previously unseen forms of human insecurity.

While these challenges are formidable, evidence suggests that there are multiple entry points available for enhancing climate resilience in dryland communities that, if applied in combination with a sufficient level of ambition, could yield effective results. These build on traditional, adaptive livelihood strategies, but introduce new approaches geared more towards empowering pastoralists and others living in drylands to make demands on their governments. Such approaches include water resource management (e.g. rainwater harvesting), community-driven development building on local institutions, scaling-up of community-based adaptation, drought early warning systems, public information campaigns, regional initiatives to support the mainstreaming of adaptation in national and local plans, and strengthening citizen engagement with policy processes. These complementary approaches attempt to redress the unequal balance of power for people in drylands, while giving them voice and building capacity to adapt to climate change.
The third common theme emerging from the workshop was agreement that the potential implications of climate change for social dynamics, cohesion and resilience is a priority area for deepening knowledge and understanding. The world is facing many mega trends, such as urbanization, climate change and population growth – all of which will affect patterns of migration and conflict. There has been relatively little experience to date with responses to drought and natural disasters involving large-scale conflict or migration. But we cannot count on study of the past as being a good basis for future planning in this respect, since perceptions may change of the likely future frequency of extreme weather events, or of the agents (who or what) responsible for them, and step changes may well occur in the severity of extreme events themselves. Furthermore, sea level rise (which is unprecedented historically) may in the medium to long-term cause displacements on a substantial scale. Any of these possibilities has implications for migration responses (whether distress, planned, anticipatory, or labor-related) and policy. Little is yet known about the implications of climate change for conflict and state fragility, and this too is a priority area for further research.

Conflict and Human Security

Many of today’s most fragile and conflict-prone societies are within the group of countries expected to be most severely hit by adverse climate changes in the coming decades. Without effective action on mitigation, climate change could overstretch adaptive capacities of many societies within the coming decades, resulting in destabilization and violence, and posing new challenges for national and international security. This is likely to be particularly true in weak and fragile states with poorly performing institutions and governance structures. This could trigger conflicts between and within countries over scarce resources, especially water and land, the management of migration, or over compensation payments from richer to poorer countries for adaptation finance. This is a newly emerging area of research and many of these propositions remain conjectural. It is proving to be a formidable challenge to establish empirical support for the linkages between conflict and climate effects. A number of regional hotspots have been identified in which constellations of security risks are thought to be associated
Three particular manifestations of climate change are thought to have substantial security implications: increasing scarcity and variability in the yields of renewable natural resources on which human livelihoods depend; sea-level rise, which is believed to have the potential to trigger massive population displacement, albeit over an uncertain timeframe; and intensification of natural disasters which would affect societies’ resource base, infrastructure and settlement patterns. The first of these manifestations – increased resource scarcity - has received most of the attention in the literature discussing security implications. However, the precise nature of the relationship between resource scarcity and armed conflict, if any, remains unclear, and questions regarding causality remain to be explored in depth.

Stocktaking research conducted for the workshop suggested that climate change may increase the risk of armed conflict only under certain conditions and in interaction with several socio-political factors. Five social effects of climate change have been suggested as crucial catalysts of organized violence. First, increasing scarcity of renewable resources may cause unemployment, loss of livelihood and economic activity, and decreasing state income. Second, increasing resource competition may move opportunistic elites to intensify social cleavages. Third, reduced state income may hinder delivery of public goods, reduce political legitimacy, and give rise to political challengers. Fourth, efforts to adjust to a changing climate may have inadvertent side effects that could spur tension and conflict. Finally, worsened environmental conditions may force people to migrate in large numbers, thereby increasing environmental, social, political and economic stress in receiving areas.

Past research has found societal factors such as low national income, large and ethnically diverse populations, weak and inconsistent political institutions, unstable regional ‘neighborhoods’, and a recent history of large scale violence, to correlate closely with the risk of armed conflict. Given the social effects associated with climate changes, future negative security impacts are likely to be found in countries and regions that already experience organized violence. The mechanisms by which the negative impacts may spiral require further investigation in specific country cases, including focusing on the socio-political catalysts, local mechanisms, and low-level violence.

Several areas were pinpointed as deserving high priority in future research on conflict and climate change. A first was to examine in greater depth what may be the plausible catalysts of conflict, including the conditions under which natural disasters may contribute to conflict. Second, it was felt to be important to widen the definition of conflict to include non-state conflicts, to explore the influence of climate in shaping the course and outcome of ongoing conflicts, and to acknowledge regional implications.

Third, in terms of research methods, pluralistic approaches that combine research traditions are needed, including a combination of more disaggregated research designs, quantitative analysis and comparative analysis of historically grounded case studies. Such approaches would more readily allow for complex relationships to be tested in a systematic manner from which general propositions can be drawn.

(Source: WBGU (2008)14)
Migration

Migration is a complex social process and identifying and isolating factors is not simple. Exploring the links between migration and climate change is even more challenging. Climate change may play a role in migration but is often not the primary driver. Vulnerability to climate change is as much shaped by underlying inequities in access to power and resources as by the climate stressors themselves. Social difference will affect migration choices. For example, natural disasters vary widely in their potential to instigate migration. Indeed, while labor migration commonly intensifies in response to climate hazard, distress migration patterns are shaped by assets, social networks and available aid. It is also important to note that migration in response to climate variability is typically internal and short-term, and not related to conflict risk.

Broadly speaking, the major climate change trends of relevance to migration are likely to be: increasing temperature and reduced rainfall, leading to water stress, drought and reduced growing season in tropical and sub-tropical drylands (e.g. the Sahel), sea level rise, increased frequency of storm surges, and increased intensity of tropical cyclones, leading to flooding in low-lying and coastal regions (including the Niger delta); and higher temperatures leading to a longer growing season in temperate regions (e.g. Northern Europe and Siberia). Temperate regions (e.g. Northern Europe and Siberia).

Combining the projected trends for demographics and climate change with current migration patterns, a number of impacts may be expected. Climate change impacts are likely to be more substantial where "push" drivers of migration coincide with high vulnerability to climate change and low capacity to adapt. In such areas (e.g. the Sahel, highlands of Ethiopia), the pressure to migrate is likely to increase. Internal and cross-border movements appear more likely to be frequent responses to climate change impacts than long-distance international movements, as economic losses associated with climate change may prevent people investing in overseas migration and force them to look for work elsewhere locally.

Example, international labor migration from the Sahel region actually fell during the droughts of the 1970s and 1980s as people lacked the resources to invest in the journey. Conflict-driven migration may be exacerbated by climate change, particularly where this exacerbates conflict over natural resources (e.g. Darfur). Temporary, short-distance "distress" migration is likely to rise as a consequence of climate shocks (e.g. droughts in the Sahel, or floods in Volta, Okavango and Niger deltas). However, the numbers affected may be lower if prior anticipatory migration occurs in response to increased climate vulnerability. Some migration streams driven by the "pull" of economic opportunity may also be affected by climate change, including reduced opportunities for seasonal work in Eastern Sudan or Central Ghana and increasing employment opportunities in agriculture outside Africa. Coastal or low-lying areas will be vulnerable to sea level rise and increased flood hazards. This, combined with increased overcrowding in urban areas, carries a risk of secondary migration.

There is also a need to further develop approaches for the managed relocation of populations whose livelihoods and settlements may not be secure. In the near future, the number of people needing to be relocated will be quite nominal. However, a best-practice strategy should be designed to deal with the most difficult future situations – the cases of small island development states and urban coastal areas. To prevent significant outmigration, present strategies could include protecting coastal infrastructure and limiting building in fragile coastal areas. In addition, regional agreements to facilitate post-disaster recovery should be developed in advance of disasters.
The fourth, strongly emerging theme of the workshop was that it is vital that climate action be made to work for rather than against the interests of poor people.

Two observations are commonly made regarding the distinction between mitigation and adaptation in the global climate change debate. First and foremost is that the more mitigation is undertaken, the less adaptation will be needed – that is, mitigation should be seen as the first and best form of adaptation. As the Stern Review argued, it is also likely to be orders of magnitude cheaper for national economies to mitigate now than to try to adapt later.

The second distinction between mitigation and adaptation is that while mitigation necessitates global analysis and global collective action, all adaptation is necessarily local. Appropriate forms of adaptation support need to be based on country- and context-specific analysis and to be tailored to suit local conditions.

It is important to keep both of these observations in mind when discussing climate action. But while reducing the greenhouse gas emissions that cause climate change...
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Sectors, agricultural commodity prices are becoming increasingly correlated with energy prices. The promotion of first-generation or ethanol-based biofuels, efforts to reduce emissions from deforestation and degradation (REDD) by putting a price on carbon, and large-scale investments in hydropower generation, may have unintended consequences resulting in the expropriation of land holdings of poor and vulnerable groups. This is because those who are among the most vulnerable, such as women and Indigenous Peoples, often have the least secure property rights over the land and natural resources on which they depend for a livelihood, and the weakest voice when it comes to pressing their claims. While the international community has been slow to acknowledge these unintended consequences of climate action, the practical challenges in realizing ‘no benefits’ for local communities are likely to be formidable. In terms of tackling the causes of climate change, it is vital to strengthen the benefits and reduce the potential costs of mitigation actions for poor people and their livelihoods. More work is needed to develop more inclusive and socially accountable approaches to hydropower development, biofuels, and forest carbon finance initiatives in the context of the UNFCCC negotiations, although the broad outlines of such an approach is beginning to emerge in some areas. On the forests agenda, for example, we need an approach that proactively addresses social risks ex ante, applying lessons from international experience in promoting sustainable forest management in ways that actively involve Indigenous Peoples and other forest-dependent communities. This should include clarifying and securing their tenure, property and carbon rights; removing barriers to transparent, inclusive and accountable forest governance; and investing in institutional and organizational capacity to enable them to participate as full partners in climate action and sustainable forest management more broadly. Preliminary evidence suggests that such approaches could be among the most cost-effective means of ‘sequestering’ (or capturing and storing) carbon, while also empowering and creating incentives for local communities to act as active stewards of their forest environment. At the same time, the application of social safeguard policies is essential to ensure that the various actors in forest carbon finance initiatives are held to account and comply with international agreements, minimum standards and good practices. Much discussion in the forestry context currently focuses on applying the core principle enshrined in the recently adopted UN Declaration on the Rights of Indigenous Peoples of requiring the ‘free, prior and informed consent’ of Indigenous Peoples. Not all institutions, including the World Bank, have yet brought safeguard policy frameworks fully into line with this international agreement.

Social Impacts of Mitigation

Many of the measures being proposed to reduce greenhouse gas emissions threaten to further undermine the livelihoods of those who are among the most vulnerable to the impacts of climate change. The promotion of first-generation or ethanol-based biofuels, efforts to reduce emissions from deforestation and degradation (REDD) by putting a price on carbon, and large-scale investments in hydropower generation, may have unintended consequences resulting in the expropriation of land holdings of poor and vulnerable groups. This is because those who are among the most vulnerable, such as women and Indigenous Peoples, often have the least secure property rights over the land and natural resources on which they depend for a livelihood, and the weakest voice when it comes to pressing their claims. While the international community has been slow to acknowledge these unintended consequences of climate action, the practical challenges in realizing ‘no benefits’ for local communities are likely to be formidable. In terms of tackling the causes of climate change, it is vital to strengthen the benefits and reduce the potential costs of mitigation actions for poor people and their livelihoods. More work is needed to develop more inclusive and socially accountable approaches to hydropower development, biofuels, and forest carbon finance initiatives in the context of the UNFCCC negotiations, although the broad outlines of such an approach is beginning to emerge in some areas. On the forests agenda, for example, we need an approach that proactively addresses social risks ex ante, applying lessons from international experience in promoting sustainable forest management in ways that actively involve Indigenous Peoples and other forest-dependent communities. This should include clarifying and securing their tenure, property and carbon rights; removing barriers to transparent, inclusive and accountable forest governance; and investing in institutional and organizational capacity to enable them to participate as full partners in climate action and sustainable forest management more broadly. Preliminary evidence suggests that such approaches could be among the most cost-effective means of ‘sequestering’ (or capturing and storing) carbon, while also empowering and creating incentives for local communities to act as active stewards of their forest environment. At the same time, the application of social safeguard policies is essential to ensure that the various actors in forest carbon finance initiatives are held to account and comply with international agreements, minimum standards and good practices. Much discussion in the forestry context currently focuses on applying the core principle enshrined in the recently adopted UN Declaration on the Rights of Indigenous Peoples of requiring the ‘free, prior and informed consent’ of Indigenous Peoples. Not all institutions, including the World Bank, have yet brought safeguard policy frameworks fully into line with this international agreement.

Realizing Synergies between Mitigation and Adaptation

In order to tackle effectively and equitably the consequences of climate change, it is essential to build the adaptive capacity and resilience of vulnerable social groups and the institutions that support them. This includes the capacity to organize at the local level for adaptation, voice priorities and make claims on public policy, and mediate and resolve potential conflicts over forest and land claims. The importance of such approaches to building adaptive capacity has been highlighted in the previous section with reference to the urban poor and people living in drylands in developing countries. We have also seen in the case of the forests agenda that empowering and building the capacity of vulnerable groups to voice their priorities and make claims for public support is the best line of defense in reducing the potential risks associated with mitigation. Such approaches help overcome the potential trade-offs between mitigation and adaptation and instead shift climate action in the direction of realizing synergies between the two agendas.

Tackling adaptation also requires seeing beyond infrastructures to address priorities in allocating resources for adaptation. Much discussion in the workshop addressed the overlap or complementarity between a climate change adaptation agenda and what may be considered the existing realm of pro-poor development. Many societies are not well adapted even to existing climatic conditions, including the challenges posed by existing levels of climate variability, suggesting that there is an ‘adaptation deficit’ that first needs to be addressed even before turning to an agenda that explicitly addresses the need to adapt to future climate change. There is widespread scope for ‘win-win’ or ‘no-regrets’ policies and programs that simultaneously help to address existing forms of vulnerability and provide a foundation for adaptations to future climate change. In many respects, sound development is the best form of adaptation: strong and accountable institutions, effective delivery of education and health care services, integrated water resources management, pro-poor agricultural research and extension, good infrastructure and a diversified economy all contribute to societal resilience. The role of social policy in helping to realize such synergies in climate action is highlighted in the following section, with an emphasis on coherence of actions to achieve effective adaptation.

**Facts**

- Strategies to mitigate climate change, such as growing corn and sugar cane for biofuels and the use of forestry plantations as ‘carbon sinks’, are competing with food production for increasingly scarce land, thereby placing further demands on the natural resources on which they depend for a livelihood, and the weakest voice when it comes to pressing their claims. While the international community has been slow to acknowledge these unintended consequences of climate action, the practical challenges in realizing ‘no benefits’ for local communities are likely to be formidable.

- In terms of tackling the causes of climate change, it is vital to strengthen the benefits and reduce the potential costs of mitigation actions for poor people and their livelihoods. More work is needed to develop more inclusive and socially accountable approaches to hydropower development, biofuels, and forest carbon finance initiatives in the context of the UNFCCC negotiations, although the broad outlines of such an approach is beginning to emerge in some areas.

- On the forests agenda, for example, we need an approach that proactively addresses social risks ex ante, applying lessons from international experience in promoting sustainable forest management in ways that actively involve Indigenous Peoples and other forest-dependent communities. This should include clarifying and securing their tenure, property and carbon rights; removing barriers to transparent, inclusive and accountable forest governance; and investing in institutional and organizational capacity to enable them to participate as full partners in climate action and sustainable forest management more broadly.
There are also countless ways in which societies and international agreements are currently mal-adapted to climate hazards. Examples include counterproductive incentives such as subsidies for water-intensive crops, OECD farm subsidies and restrictions on free trade of developing country agricultural commodities, and inappropriate or unevenly applied regulatory frameworks for land-use planning. The political economy underlying such perverse incentive structures is one of the most challenging aspects of the climate action agenda, as evidenced by years of foot-dragging on international agricultural trade reform by OECD countries. Removing such barriers to adaptation is an urgent priority in climate action as much as in a pro-poor development agenda more generally.

The Development-Adaptation Continuum

In this context, the notion of a continuum of adaptation approaches was also discussed, drawing on work by the World Resources Institute (see Figure 7). At one end of the continuum are adaptation approaches that overlap substantially with those aspects of the existing development agenda that seek to reduce poverty by addressing the underlying drivers of vulnerability, whether climate-related or not. This recognizes that climate-related stressors more often than not interact with other drivers of vulnerability, as clearly illustrated by the case of people living in drylands. Such approaches seek to strengthen governance, policies and institutions, through approaches including community-based natural resource management, community-driven development, and social protection programs, for example, with a strong emphasis on empowerment, participatory planning processes, community involvement in decisions, access to information, and institutional capacity building.

At the other end of the spectrum are adaptation approaches that more explicitly address the direct impacts of climate change, such as improved weather data collection and forecasting capabilities. In between the two extremes are approaches that seek progressively to build climate response capacity and address climate risk management, including ex ante preparedness measures. This includes improved approaches to vulnerability and risk assessment, the provision of public services such as drought early warning systems, improved inter-sectoral coordination (e.g. for disaster risk preparedness and response), the provision of technical assistance (e.g. for strengthening the capacity of health systems to address new diseases), public safety nets for those affected by disasters, and ex ante financing structures that seek to pool risk at higher levels of aggregation including global weather markets (e.g. catastrophe bonds and index-based weather insurance). Within this range of action it is important that planning for social provision (including health, education, social protection, the provision of urban services, and the regulation labor markets) takes account of the increasing impacts of climate change.

However, it is important to recognize that the basis for providing adaptation finance under the UNFCCC is very different from the basis on which official development assistance (ODA) is provided. Under the UNFCCC, according to the Polluter Pays Principle, Annex 1 countries (mainly OECD countries, until now the chief emitters of greenhouse gases) are obligated to provide...
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adaptation finance to non-Annex 1 countries (developing countries, in the main). Adaptation finance is therefore seen as a right of developing countries, in a way that goes beyond the moral and ethical foundations of ODA. This is why in the context of the negotiations on a future global climate regime, it is vital that adaptation finance be seen as additional to existing flows of ODA, which developing countries fear it might otherwise displace.

Practically speaking, however – as the notion of the development-adaptation continuum makes clear – there is substantial overlap and complementarity in the types of activities that need to be supported by both ODA and adaptation finance. It is a necessarily integrated agenda. In order to make climate action work for rather than against the interests of poor and vulnerable people, policy and practical coherence between the realms of development and adaptation is urgently needed. To the extent that they may at times be addressed by different agencies and communities of practice on the ground, it is also essential that the lessons of decades of development experience are heeded and applied in operationalizing climate change adaptation.

The Role of Social Policy in Climate Action

Measures to close the existing ‘adaptation deficit’ are needed to help households and countries gear up for the expected increase in future climate volatility. While this may look a lot like development as we know it, it implies much more than ‘business as usual’: interventions will need to be designed in different ways to take account of changing risk patterns and longer time horizons for adaptation. The fifth emerging theme from the workshop was that social policy needs to be brought into the picture for effective, pro-poor climate action, but in ways that go beyond ‘business as usual’.

Social safety nets and other mechanisms for social protection will be critical both for helping poor people to adapt and for when adaptation fails. Inclusive and responsive institutions are needed to ensure that the provision of critical services (health care, housing, education) can adapt to a changing situation. And when population movements accelerate in response to climate change there will be challenges in ensuring that migrants can acquire security of the person and livelihood in their new homes and communities.

But social policies should not be seen as an ‘add on’ to failed economic policies. Climate change provides an opportunity for an integrated approach to policy development that takes on board both economic and social concerns while being contextualized within global political debates. Macroeconomic policies and structural reforms can affect existing distributive relations and institutional structures and, as such, may affect social relations and poverty. Therefore, macroeconomic policies should aim at macroeconomic stability not as an end in itself, but as a necessary precondition for sustainable growth and supporting pro-poor climate action. The range of available macroeconomic, social policy and mitigation and adaptation options may be constrained by a country’s situation. Hence, macroeconomic and financial policies and programming need to be formulated with an understanding of institutional and social context as well as the economic situation. Moreover, the analysis and understanding of these linkages must be deepened, both globally and in the specific country context.
The sixth, and frequently recurring theme of the workshop, concerned the governance of climate action at the global, national and local levels. Among the critical questions arising are which actors and institutions need to be involved, how to give voice to the vulnerable in crafting such governance arrangements, and how various forms of social accountability can be built in. Governance and institutions powerfully shape adaptive capacity at the national level, and are critical in ensuring that the results of mitigation efforts match intentions.

From community meetings to the corridors of the United Nations, the complex challenges involved in tackling the causes and consequences of climate change are fundamentally those of governance. First, the challenge of coordinating effective global action to mitigate climate change requires unprecedented collective action between nations, firms and communities – constituting a massive challenge to systems of national and global governance. The barriers to the kind of collective action needed include the complex issues of equity and social justice discussed earlier in this report, and issues of sequencing and market competitiveness. Second, the ability of governments to formulate effective adaptive responses depends on the strength of existing governance mechanisms. Third, societies’ adaptive capacities are in part shaped by the support which good governance structures help to facilitate. And fourth, the distribution of costs and benefits within and between states in response to climate change are fundamentally determined by governance structures at the local, national and international levels.

Although they often operate in isolation, governance mechanisms at the global, national and local levels are vitally inter-linked. For example, global frameworks shape national strategies which influence local responses. Similarly, local knowledge can be used to ensure that national and global structures are well aligned with local priorities; the quality of local governance structures can also influence the success of national adaptation strategies. This interconnectedness needs to be recognized so that policy makers can effectively assess the strengths and weaknesses of potential climate change interventions.
Governance and Climate Action

Voice and Representation

From the perspective of social sustainability, a key element of good governance is giving voice to and ensuring the representation of traditionally poor and marginalized groups. This is crucial when designing climate change adaptation strategies as these groups will be the most affected and are already adapting autonomously to increasing climate variability. Similarly, good governance is critical in the context of mitigation efforts, many of which may have adverse, if unintended, social consequences. In these circumstances, good governance can be promoted through measures to increase voice and social accountability, maximize co-benefits to local communities, or empower communities by recognizing and strengthening their customary land tenure and other forms of rights so that they may benefit from the opportunities offered. Moreover, poor peoples’ experiences may have significant value for decision makers who are designing these strategies at different levels.

Linking the Global and the Local

Accomplishing this task is challenging. However, an important first step in examining how more effectively to link local and global concerns in a comprehensive governance agenda is to consider the following issues:

- At the Global Level: How can the voices of poor people and poor countries be taken into account in framing the language of climate action? For example, the Government of the Maldives regards the necessity to move out of one’s homeland due to climate change as a failure of adaptation rather than an adaptive strategy. Similarly, who should draw the boundaries on the definition of ‘dangerous climate change’? Clearly what is ‘dangerous’ depends on where you are sitting and how vulnerable your home and livelihood are to climate change impacts. We should be cognizant of the realities of vulnerable people in poor countries in the way we frame the boundaries of acceptable change.

- At the National Level: In what ways can national climate policy objectives be designed to account for social and distributional issues? To what extent may adaptation or mitigation strategies offer opportunities simultaneously to promote wider social development objectives? For example, a low-carbon urban design might include many provisions that would improve social conditions for the urban poor – including locating housing and businesses in such a way that journey times and costs are reduced, improving the conditions for walking and bicycling, and improving public transport. How can technological solutions be designed and implemented in a way that is socially acceptable? How can governments ensure that the implementation of measures to protect forests, marshland or mangland as carbon sinks do not lead to a loss of property or use rights for poor populations? Clearly, transparent rules on ownership and institutions that are capable of working with governments to understand the ways in which communities are already adapting to climate change and variability, and the contributions that community-based adaptation will have to make in the future. To what extent do national policies empower local communities rather than actually making it harder for them to adapt? What government strategies have been successful in integrating community-based development approaches into national adaptation plans of action? Which types of strategies have undermined communities’ capacities?

Social Learning and Adaptive Policymaking

Several distinct features of the global climate challenge weigh strongly in favor of ensuring that a socially inclusive, learning process approach to adaptive policymaking is placed at the center of climate action, particularly at national, sub-national and local levels. First is the long time horizon over which decisions need to be made, and the path-dependent nature of those decisions. Second is uncertainty: even if certain changes are inevitable, their precise timing, location, and distributional impacts usually remain uncertain. And third, effective and coherent climate change mitigation and adaptation involves coordinated action among a vast number of decentralized agents.

Adaptive policy making under these circumstances will require policy makers to treat policies and programs as ongoing experimental and learning processes, based...
on targets and milestones, strong performance based monitoring and evaluation systems, and enabling frameworks for interactive engagement with multiple stakeholders. It also calls for much greater public participation in defining what climate change adaptation means in particular contexts. This could include, for example, the use of participatory scenario techniques with multiple stakeholders to jointly project anticipated changes and plan for the kinds of public policy and other forms of support they need to help them adapt to those changes.

Towards a Framework for Analysis

Considerable discussion during the workshop focused on how we should analyse the social dimensions of climate change, and what this would mean for diagnosing problems and framing pro-poor, socially accountable forms of climate action. Analytical frameworks, approaches and tools of social analysis have an important role to play in translating a social justice and governance agenda into effective research, policy and operational responses. At the core of this agenda is the need to understand the ways people are differently vulnerable to the consequences of climate change by virtue of their geographical location, livelihood sources, asset-holdings and social positioning, and for operational and policy responses to be tailored accordingly.

A variety of frameworks, approaches and tools already exist – including livelihoods and entitlements approaches – that lend themselves well to being applied to or further developed to better suit this context. This emerged as another priority area for knowledge deepening, with many participants considering it important to further our understanding of the dynamics of power and vulnerability under conditions of risk and uncertainty. Key elements of such a framework would likely include assets, livelihoods, power, institutions, vulnerability and resilience.
Viewing climate change through a social justice lens helps direct the future research and policy agenda towards priorities that most directly resonate with those people most vulnerable to the consequences of climate change. While the broad outlines of a global agenda on the social dimensions is becoming clear, there is still much work to be done. The workshop provided useful if preliminary answers on many issues, but also generated a wide range of questions and issues that warrant further exploration and follow-up action. The list below highlights some of the most important issues for the climate change agenda, and others are included in the summaries of presentations and papers that follow. This is meant to represent the beginning of a conversation about how social development issues can more effectively inform effective climate action.

Advancing a “No-Regrets” Approach to Development

The development community should advance a “no-regrets” approach to development which simultaneously promotes resilience to the adverse consequences of climate change while promoting sustainable development. For example, a number of social policy interventions (e.g. social protection and insurance instruments) are “no-regrets” contributions to equitable risk management and springboards for growth. Indeed, even if some adverse effects of climate change do not emerge, investing in these “no-regrets” policies will leave countries better off from a development perspective than they otherwise would be. In short, we need to focus on identifying operational entry points which not only address the consequences of climate change, but also promote pro-poor growth.

Reframing the Issue

The social dimensions of climate change need to be more fully integrated into mainstream policy and planning within developing countries. Responsibility for action needs to be taken up at the appropriate level by the relevant agencies and government departments. In many developing countries, faced with a laundry list of formidable development challenges, ensuring the protection of the natural environment may not be a major priority. Climate
Way Forward: Integrating Social Dimensions into Climate Policy

change still suffers from being viewed as primarily an environmental issue and is consequently relegated in many developing countries to the sole authority of generally weak environment ministries and agencies. Once reframed as a core challenge for sustainable development, however, with powerful economic and social as well as environmental implications, there is a greater likelihood of effective action by ministries of finance and planning, integration into national budgets, and take up at the level of all relevant sector ministries and line agencies.

A major effort is required to raise awareness, advocate, and develop and share knowledge on the socio-economic dimensions of climate change to ensure this wider sense of ownership over the agenda by powerful stakeholders in developing countries. The goal is to ensure that governments place socially just climate change responses at the heart of country-led poverty reduction, growth and development strategies. Assisting governments to develop coherent and comprehensive climate policy involving effective inter-ministerial and cross-sectoral coordination, and allocating sufficient funding for adaptation and mitigation, will be major parts of achieving this goal.

Improving the Adaptive Capacity of the Poor

At the local level, the poor need to be informed of the risks posed by climate change and better equipped to deal with its impacts. People should also have access to, and be trained to use, social accountability tools and instruments (e.g. for citizen oversight and monitoring) so that they can hold government accountable for delivering results. The overall goal should be to help both governments and communities advance social development objectives through ‘no-regrets’ policies and programs that also build resilience to climate change and promote good development.

An Emerging Policy Research Agenda

The realization that climate change is a core challenge for development has opened up space for a policy research agenda that focuses more on its economic and social impacts. From a social perspective, a number of areas stand out as being of particular importance. First, it will be important to devise best practices for integrating local knowledge with scientific knowledge in the formulation of adaptation strategies. While local knowledge has much to offer in terms of informing adaptation strategies, combining the two has proven challenging to date. Participatory mechanisms for bringing together local stakeholders’ and expert knowledge and integrating them at scale may be an important prerequisite, for example, for facilitating effective and culturally relevant action based on scientific forecasts and hazard warnings. Second, it will be critical to develop indicators which can be used to track progress towards achieving results on the social dimensions of climate change. Third, we need to better utilize frameworks and tools for social analysis (e.g. poverty and social impact analysis, participatory poverty and vulnerability assessments) when modeling the effects of climate change and assessing the impact that policies could have on the poorest and most vulnerable. This could include, for example, ethnographic research to understand how existing inequalities among groups and individuals may be reinforced or transformed under climate stresses, thereby shaping resource entitlements and well-being.

Finally, research needs to focus on making evidence-based policy recommendations for adaptation in the context of great uncertainty surrounding climate change. A number of these potential avenues for future research are outlined in the paper summaries in Part II. Given that the consequences of climate change do not all play out in ‘real’ time – for example, there are often significant lead-lag effects associated with threshold events – the research agenda needs to be much more focused on anticipating potential problems and utilizing tools such as participatory scenario analysis to discern how people would respond to these challenges at the local level. There is also space to develop and apply innovative tools for multi-stakeholder engagement in devising action plans under conditions of uncertainty. For example, it would be instructive to bring together stakeholders from vulnerable communities with those from the private sector, governments, and civil society organizations to jointly develop robust scenarios for adaptation under alternative future scenarios of climate change impacts and negotiations.

Bringing Stakeholders Together for Greater Social Justice

Given that global agreements are difficult to achieve due to entrenched patterns of behavior in international relations, it will be important to further explore the extent to which climate change creates opportunities to bridge global and local issues. A further important step is to identify, assess and engage the full range of actors with a stake in a socially just approach to climate change, including those from within governments, the private sector, civil society, and communities, and to identify potential areas for and new forms of partnership among these actors.

The key will be to find ways to create incentives for a diverse range of actors to speak with a common voice on the importance of addressing the social dimensions of climate change. Three types of incentives are emerging – financial, political and moral. New financial and political incentives may help influence the extent to which a social justice approach to climate change – emphasizing demand for voice, accountability, and better governance; respect for rights and acceptance of responsibilities – percolates through and informs strategies to deal with climate change at the local, national and global levels. For example, public and consumer pressure on the private sector may provide an incentive to move in the direction of more sustainable and socially responsible business models. Equally, the international climate negotiations must set an ambitious, long-term target for binding emissions reductions, with credible and enforceable intermediate milestones, if the carbon market is to thrive and encourage the private sector to change its business models. Last but not least, if citizens are informed and empowered to demand more socially just and accountable forms of climate action, governments will come under pressure to respond both from below as well as from their peers.
Social Dimensions of Climate Change Workshop 2008: Summaries of Papers and Keynote Addresses

Dr. Bob Watson

Chief Scientist, Department of Environment and Rural Affairs, Government of the United Kingdom, and former Chair, Intergovernmental Panel on Climate Change

"The Importance of Social Dimensions of Climate Change" (Keynote address)

Dr. Bob Watson captivated workshop participants with a call to consider the diverse social dimensions of climate change as much a development issue as a global environmental issue. He detailed numerous ways in which climate change may both undermine and even reverse progress made towards achieving development goals noting that most impacts of climate change directly threaten the livelihoods of the poor, human health and personal, national as well as regional security. What is more, climate change is essentially an issue of (intra- and inter-generational) equity: those who have historically contributed least to the problem are the poor in developing countries. The poor are precisely the ones who will be affected first and worst; Bob Watson illustrated this point with multiple graphs and maps.

Poor people’s heightened vulnerability to the impacts of climate change is due to both a narrower margin of tolerance to the impacts and low adaptive capacity severely constrained by the poor’s lack of access to technology, low levels of existing financial and institutional capacity and by lack of know-how and education on how to adapt. The projected impacts of climate change are diverse and oftentimes interrelated, including decreased water availability and quality in many arid and semiarid regions and decrease in agricultural productivity for almost any warming in the tropics and sub-tropics. Furthermore, climate change threatens to provoke conflict and migration depending on the social, economic and political circumstances of the area in question.

What can be done? Bob Watson asserted that climate resilient development entails tackling both the causes (mitigation) and the consequences (adaptation) of climate change. Sound mitigation policies consist of providing the poor with access to affordable energy and low-carbon technologies that will facilitate socially sustainable development. At the same time, developed countries must decrease their dependence on fossil fuels by adopting...
alternative energy technologies, developing viable engineering solutions (e.g. Carbon Capture and Storage) and shifting to more sustainable land use practice. With respect to the design and implementation of adaptation interventions, it is vital that the aspirations of local communities be recognized when integrating current climate variability and projected changes into sector and national level economic planning for the long-term. Questions regarding who will pay for these changes will present tough moral and equity concerns.

Watson highlighted sound governance mechanisms as crucial to delivering the appropriate adaptive responses at the local, national, regional and international levels, stating that adaptation is a process involving responses to interrelated problems in many sectors. Responses may range from financing adaptation to supporting strong networks for the exchange of information and good science. Costs of inaction are huge and existing sources of public financing for adaptation fall woefully short of actual needs.

Bob Watson concluded that "the future is not pre-ordained – we can limit changes in the Earth’s climate but the changes needed in current policies, practices and technologies are substantial." A long-term stabilization target is needed to send an appropriate signal to the private sector and carbon market. Equally, intermediate targets and an equitable allocation of emissions rights are crucial to addressing climate change in a meaningful and effective way.

What new energy paradigms will develop? Can developed countries exercise the necessary leadership to deal with this global challenge? The Rt. Hon. Campbell drew attention to the fact that military effectiveness is undermined by climate change; weakly governed states will be the most prone to the impacts of climate change, and in turn are simultaneously most likely to endure conflict. What do we do? Importantly, developing countries need to be ensured adequate access to energy. Designing and implementing effective mitigation policies and activities should be considered a priority in the developed world. To do so, it is imperative to build the capacity of government to deliver on public policy commitments. Echoing the words of Bob Watson, she stressed that good governance is key to addressing the relationship between climate change and conflict. It is fundamental that “no-regrets” policies be implemented and enforced. Finally, Rt. Hon. Campbell reiterated the need to model the social impacts of climate change.

Rt. Hon. Kim Campbell
Former Prime Minister of Canada and former Secretary General of the Club of Madrid
“Conflict Related Aspects of Climate Change” (Keynote address)

The Rt. Hon. Kim Campbell began by describing the complexity and uncertainty of the relationship between climate change, conflict and migration. However, she highlighted that in spite of this “dealing with the challenges presented by climate change could in fact, under the right circumstances, be a vehicle for greater cooperation, a greater sense of a shared faith that we have in the world.”

What position will the developed countries take in dealing with the challenge of climate change? Can they exercise the necessary leadership? History is replete with examples in which people come together to deal with global issues. A main challenge when dealing with climate change is that projections are largely based on conjecture. Several unknown questions include how humans will mitigate?
Her Excellency Ms. Dunya Maumoon
Deputy Minister of Foreign Affairs, Republic of Maldives

"The Human Dimension of Climate Change in the Maldives and Small Island States" (Keynote address)

The keynote speech by Her Excellency Ms. Dunya Maumoon was an impassioned plea to the international community to "listen to the voices of the vulnerable" when dealing with global warming. The Deputy Minister said the immediate effects of climate change threaten small island states like the Maldives, but the far-reaching impacts will reach into every community and neighborhood on the planet.

The Deputy Minister highlighted the effects climate change would have on food, access to water and development. In particular she focused on how least developed countries would be hardest hit by associated climate impacts, undermining their attempts to meet the Millennium Development Goals (MDGs).

Turning her attention to the Maldives, the Deputy Minister stressed that while climate impacts seem like abstract effects of climate change threaten small island states like the Maldives, but the far-reaching impacts will reach into every community and neighborhood on the planet. The Deputy Minister welcomed the changing political landscape, which is providing “a genuine window of opportunity that could lead to a comprehensive global consensus on climate change.” She cited the Bali roadmap, which established negotiating pathways on mitigation, adaptation, technology, and finance, as cause for optimism. However, she also warned that the current negotiations must not abandon the most vulnerable and marginalized in the search for compromise.

Concluding her address, the Deputy Minister asked the assembled participants to inject urgency and ambition into climate policy saying “this devastating impacts of global climate change have come. They have come first for the Maldives and other Small Island States. They have come first for the poor, the vulnerable and the voiceless. Will you speak up with us? Will you raise your voice? Or will you wait until there is no-one left to speak for you?”

Sheila Watt-Cloutier
Former Chair, Inuit Circumpolar Conference
"Indigenous Peoples and Climate Change" (Keynote address)

With stunning images of Arctic landscapes and Inuit communities as a backdrop, keynote speaker Sheila Watt-Cloutier shared an emotive and insightful account of the place and strength of indigenous wisdom in informing people about balanced development and sustainability. She stated, “My story is to always try to tell you the strength of who we are and how we can contribute to a world that has largely lost its connection to the cycles of nature.” In an age of globalization and ever increasing interconnectivity, her words reminded us how vital it is to consider how the global affects the local and in turn how the local affects the global.

Ms. Watt-Cloutier described evidence of an historic transformation of the environment in the Arctic. For example, changes in hunting practices have directly undermined community mechanisms and socialization process for young people. As the Inuit have historically relied on the fact that environmental factors would be constant, such changes are now so great that elders can’t pass on traditions that have evolved throughout generations. Many Indigenous Peoples are struggling to maintain their way of life; for them, climate change is an enormous cultural and social issue which they believe to be essentially about their right and ability to exist as Indigenous People. Ms. Watt-Cloutier described how after two years of preparation, members of the Inuit community submitted a petition to preserve their human rights in the face of the negative repercussions of climate change. The petition aimed to educate, inform and encourage people to tackle climate change issues. Ms. Watt-Cloutier called for solutions that end the cycle of victimhood for Indigenous and other vulnerable peoples of the world. All processes and operations must be rethought and development must be re-centered on humanity rather than on industry. In her words, “A healthy and productive spirit of the people is the basis for all successful human development.” Indigenous Peoples are particularly adept in adapting to change in climate and living in balance with natural cycles. Their close connection to food sources and the rhythms of nature require this. Nonetheless, the absolute ingenuity of indigenous culture is all too often overlooked and understated. It is time for people to begin to see the indigenous world for what it is – a large opportunity to globalized but a repository of knowledge, a community of scientists in their own right who can inform and guide the world to focus on better sustainability for our human communities.

Climate change is complex and requires immediate action. Ms. Watt-Cloutier spoke for the indigenous communities when she stated, “We want to be part of the process from day one… My advice is don’t parachute yourselves into the communities but really become a part of who we are and what we can offer.” This is a great opportunity to come together to fundamentally change the simple-minded notion that unrestricted economic growth can cure all social ills and lead the way to a better world. We must come together particularly for Indigenous Peoples and others who contribute least to the problem but have the most to lose.
Dr. Ibrahim Mayaki

Former Prime Minister of Niger, and current Executive Director of Rural Hub in Africa

"Challenges of Climate Change Mitigation and Adaptation in Africa" (Keynote address)

Keynote speaker Dr. Ibrahim Mayaki focused on how to institutionalise adaptation policies in the agricultural sector. He analysed environmental policies on a number of different dimensions and concluded that the challenges for the implementation of adaptation policies and that theoretical content in which this needs to be done becomes complicated when faced with practicabilities of implementation at an institutional level.

Dr. Mayaki outlined internal and external factors on which successful policy implementation depends. At the national level, leadership in political systems and availability of resources will heavily determine to what extent policy implementation succeeds. He stated that in West Africa, the level of resources is not proportionate to the level of aspirations to address the problem of climate change. Moreover, external factors such as international conventions and donor policy can either help or hinder this process. Dr. Mayaki deliberated how institutional mechanisms may be strengthened to update environmental policies when the environment itself is not a major priority in West Africa and more specifically, when the climate change agenda in West Africa is still not very well defined. Moving from policy formation to policy implementation is complicated by these factors.

To overcome these challenges, Dr. Mayaki stressed the need for improved information systems, decision making tools and access to technology. Moreover, enhanced coordination with national and international research centers as well as awareness raising initiatives will all contribute to a greater understanding of the problems associated with climate change. He explained the need to promote behavioral change and education so that people will know how to respond to the increasing impacts of climate change.

In addition to this, Dr. Mayaki made a powerful case for rethinking development strategies and ensuring that people at the grassroots level are involved in this process. It is crucial to recognize climate change as a key obstacle to achieving our human development goals. Dr. Mayaki closed his speech with a thought-provoking question: how can governments engage in social development through climate change issues? This question puts a human face on the climate change discourse has disproportionately focused on its threats and projected impacts on areas such as the environment, economic activity, human health and energy. However, despite decisive evidence that women are more vulnerable to the effects of climate change than men, a "human face" has yet to be put on the climate change debate. Ms. Aguilera notes that this heightened vulnerability is not due to the fact that women are "naturally weaker"; rather, women face different vulnerabilities than men due to their gender condition. More specifically, many women live in conditions of social exclusion which limit their abilities to survive when disaster strikes. Dress codes can restrict women's ability to move quickly, while behavioral restrictions can hinder their ability to re-locate without their husband's, father's or brother's consent. For example, the clothes that women wear in rural Bangladesh hamper running and swimming, and some women cannot leave their household without a male relative. Some of these circumstances were responsible for the fact that in the 1991 cyclone disaster, 90% of the 140,000 people killed in Bangladesh were women.

Gender differences as revealed by women's economic and social rights have a direct effect in deaths from natural disasters; it follows that prioritizing the empowerment of women when crafting adaptation and risk reduction strategies is crucial.

Women have always been leaders in community revitalization and natural resource management. Nevertheless, they have not been afforded equal opportunities in decision making related to adaptation and mitigation policies and initiatives at the international and national level. Few major conventions and meetings on climate change note the importance of addressing and promoting gender equality. The time has come to make the scientific, community and governments accountable and to put actions to commitments.

Gender inequalities are magnified by climate change. Given that gender equality is a precondition for sustainable development and poverty reduction, climate change threatens to set back development progress. Conversely, achieving development goals and gender equality will reduce the impacts of climate change. It is therefore vital to address these linkages between climate change, gender and the Millennium Development Goals.

What can be done? Suggested actions include: identify and analyze gender-specific impact and protection measures related to the impacts of climate change; give voice to women and gender experts in all decisions related to climate change; take action to ensure UNFCCC compliance with human rights frameworks, international and national commitments on gender equality and equity.
Implications of Climate Change for Armed Conflict
By Halvard Buhaug, Nils Petter Gleditsch and Ole Magnus Thiaesen

What do we really know about environmental factors and armed conflict? The paper by Buhaug, Gleditsch and Thiaesen offers an assessment of theories and evidence for a relationship between climate change and armed conflict. The authors identify important areas for future research and conclude that although a lack of robust findings in the general literature on environmental conflict limits the ability to prescribe appropriate policy recommendations, some insights for targeting future development and peace building efforts may be gained by examining the indirect nature of this relationship. In view of this, the authors conclude with six recommendations to guide future research agendas.

The paper identifies sea-level rise, increasing resource scarcity and the intensification of natural disasters as three processes brought on by climate change which could lead to a reduction or loss of livelihoods for millions of people around the world. This effect could in turn, incite political instability, economic instability, migration, and security among vulnerable societies. Indeed, vulnerable societies must be prioritized as they will suffer doubly, faced with both security challenges and threatened livelihoods due to environmental hazards and sudden onset disasters caused by climate change. Clearly, the extent to which any of these mechanisms increase the likelihood of social instability and armed conflict. Clearly, the extent to which any of these mechanisms increase the likelihood of social instability and armed conflict. They also note that environmental hazards and sudden onset disasters caused by climate change may alter typical migration patterns of communities and entire countries. The authors definitively conclude that large scale community relocation due to either chronic or sudden onset hazards is and continues to be an unlikely response. Five main conclusions inform the development of an alternate framework through which the likely consequences of climate hazards may be examined in the future.

First, the authors underscore the fact that disasters vary considerably in their potential to instigate migration. Indeed, when discussing post-disaster human security it is important to consider people’s vulnerability as a function of prevailing political, social and economic forces. Individual, community and national vulnerabilities shape responses as much as disaster effects do. Second, diversifying income streams is the predominant avenue through which people mitigate increased hazards from climate change. To this extent, labor migration in developing countries to rural and urban areas is a common component of diversified local economies. Labor migration is typically internal, temporary and circular. It is the predominant avenue through which people mitigate increased hazards from climate change. To this extent, labor migration in developing countries to rural and urban areas is a common component of diversified local economies. Labor migration is typically internal, temporary and circular. Labor migration is typically internal, temporary and circular.

Second, they have relied heavily on case studies of previous state conflicts; explore the influence of climate change for the course and outcome of ongoing conflicts; and combine research traditions to test complex relationships in a systematic and generalizable manner. In addition to investing in more rigorous, systematic research, a more systematic environmental accounting with a view to effectively target countermeasures and mitigation of conflict is needed. Similarly, drastic mitigation and adaptation measures themselves may themselves have implications for security; these merit an assessment as well. Indeed, inclusion of security issues in the next round of IPCC assessments would give this issue the prominence and solid research foundation it needs. Meanwhile, as knowledge in this area improves, investing in sustainable development policies may be the most effective way of promoting peace and security among vulnerable societies. Indeed, vulnerable societies must be prioritized as they will suffer doubly, faced with both security challenges and threatened livelihoods due to the impacts of climate change.

Assessing the Impact of Climate Change on Migration and Conflict
By Clionadh Raleigh, Lisa Jordan and Idean Salehyan

In their paper, Raleigh, Jordan and Salehyan evaluate the claim that the frequency and severity of chronic environmental hazards and sudden onset disasters caused by climate change may alter typical migration patterns of communities and entire countries. The authors definitively conclude that large scale community relocation due to either chronic or sudden onset hazards is and continues to be an unlikely response. Five main conclusions inform the development of an alternate framework through which the likely consequences of climate hazards may be examined in the future.

First, the authors underscore the fact that disasters vary considerably in their potential to instigate migration. Indeed, when discussing post-disaster human security it is important to consider people’s vulnerability as a function of prevailing political, social and economic forces. Individual, community and national vulnerabilities shape responses as much as disaster effects do. Second, diversifying income streams is the predominant avenue through which people mitigate increased hazards from climate change. To this extent, labor migration in developing countries to rural and urban areas is a common component of diversified local economies. Labor migration is typically internal, temporary and circular. Labor migration is typically internal, temporary and circular. Labor migration is typically internal, temporary and circular. Labor migration is typically internal, temporary and circular.

Finally, the authors highlight that the above-mentioned findings should be considered with multiple caveats. First, they have relied heavily on case studies of previous disaster to determine main points of their framework and consequently have limited perspective of projected “worst case” climate change scenarios. In addition, the social consequences of climate change have been, up to now, significantly under-researched. This framework can inform future studies on victim profiles and serve as a basis for the development of prediction models on migration and conflict using climate inputs.
Social Dimensions of Climate Change Workshop 2008

By Arun Agrawal

Agrawal's paper examines the relationships between climate-related vulnerabilities, adaptation practices, institutions and external interventions to show the role and importance of local institutions in climate change. He proposes an analytical framework to classify adaptation practices based on their relationship to different forms of environmental risks and examines past adaptation responses to climate change, their impacts on the livelihoods of the rural poor, and the role of institutions in facilitating external support for adaptation. Agrawal outlines five main adaptation strategies which households and communities have developed to adapt to climate variability. These include mobility, storage, diversification, communal pooling and market exchange.

Focusing on three types of institutions – public, private, and civic – a review of case studies indicates that local institutions play a crucial role in shaping adaptation to climate change: they connect households to local resources and collective action, determine flows of external support to different social groups, and link local populations to national interventions. The lessons from this review are finally used to make recommendations about the operational significance of local institutions and institutional analysis in the context of climate change.

Specifically, Agrawal recommends the need for a greater role for institutional partnerships in facilitating adaptation. Partnerships among local public and civil society institutions as well as between private and civil society institutions can greatly enhance informal institutional processes through which adaptation occurs and promote appropriate coping strategies. Enhancing the capacity of these local institutions is critical to supporting adaptation, particularly as the intensity of adverse future climate impacts is likely to increase. Furthermore, Agrawal suggests that the role of local institutions and linkages between them be understood and, wherever possible, additional resources and external support be provided. Recognizing that vulnerable groups generally have lower institutional access than more powerful groups, such an analysis will increase efficacy of adaptation investments. On a similar note, focus on territorial development strategies that take both vulnerabilities and capacities into account is necessary. The multiple linkages among external interventions and local adaptations can only be understood through a focus on the mediating role of different institutions in a given territory, and their influence on production and adaptation possibilities.

For better planning and implementation, Agrawal proposes that institutional coordination across scales must be improved. Greater capacity to adapt locally will depend on the extent to which local institutions are more centrally involved in national planning for and implementation of adaptation policies and projects and the degree to which these activities are mainstreamed at different levels. Similarly, an adaptive perspective on institutional development will be required when designing and implementing for risk management interventions. A willingness to experiment, tolerate mistakes and promote social learning and behavioral change when determining best ways for institutions to facilitate local adaptation will be crucial.

Agrawal identifies three areas in which far more research is needed to improve existing knowledge about the role of institutions in adaptation and adaptive development.
Climate Change and Agrarian Societies in Drylands

By John Morton and Simon Anderson

Due to their current ecological and socio-economic status, dryland dwellers will be disproportionately affected by climate change. The paper by Morton and Anderson examines the current status of drylands and their inhabitants, identifies the likely climate change impacts on drylands, and explores what the main socio-economic components of climate vulnerability are. Finally, the authors outline opportunities for effective adaptation and mitigation strategies for dryland dwellers.

Morton and Anderson begin their analysis with a detailed characterization of dryland systems. Drylands cover approximately 40% of the world’s land surface and are home to more than two billion people most of who live in rural areas of developing countries. This population bears the lowest levels of human well-being, the lowest per capita GDP and the highest infant mortality rates. As the livelihoods of dryland dwellers are highly dependent on climate sensitive sectors, improved progress towards development will require interventions that equally address ecosystem degradation, mainstream appropriate natural resource management and build upon the capacities of people and institutions.

The work details how pastoral systems have already been undergoing changes and confronting new challenges brought about by climate change. For example, migration as climate adaptation is predicted to increase population pressure and destabilize property rights systems; in addition, new disease burdens will emerge as rainfall and temperature changes begin to alter more and more. Such changes and many more will lead to stronger competition between growing pastoral communities for access to scarcer water and pasture resources. One coping strategy pastoralists have pursued is further livestock diversification (e.g. shifting away from cattle production to more drought-resistant species such as camels). The paper outlines numerous related coping mechanisms.

What can be done? Morton and Anderson outline several policy responses specific to dryland areas which range from supporting dryland least developed countries to engage with climate change negotiations to ensure that post-2012 agreement is shaped in ways responsive to their priorities, to mainstreaming adaptation into development planning at the national, sectoral and local/district levels. Mainstreaming may take the form of adjusting water management at these levels in order to reduce risks from flooding, and scaling up pilot community-based adaptation projects to ensure documentation and rapid replication of these activities. With specific regard to pastoralists, it is critical to pursue policies which enable herd mobility while securing rights to critical resources, and which acknowledge the building robust conflict management institutions and effective drought mitigation systems. These are but a few examples of policy directions which can strengthen the resilience of pastoralists to climate change.

Morton and Anderson conclude by outlining a future research agenda which encourages focus on issues such as improved governance and representation of dryland dwellers and the need to identify social policy alternatives where adaptation fails. Several gaps in knowledge with regard to drylands and climate change are identified. The most obvious gap from a developmental perspective is the testing and ground-
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Climate Change, Human Vulnerability, and Social Risk Management
By Rasmus Holdberg, Steen Lau Jorgensen, and Paul Bennett Siegel

This paper by Holdberg et al. is motivated by what the authors perceive to be important gaps in the literature on climate change. More specifically, they explore the present lack of attention to how risks associated with climate change might affect households; the inconsistent use of key terms such as risk, vulnerability and adaptation; and the lack of clarity on the relationship between risks associated with climate change, adaptation and vulnerability.

To enhance this analysis, the authors present a social risk management and asset-based conceptual framework intended to help inform the design of interventions that can increase the adaptive capacity of the vulnerable as well as maintain or increase the opportunities for development. This framework is applied to adaptation interventions at the household, local, national and international levels and their linkages. Several “no-regrets” social policy options for equitable risk management and improved economic growth are presented followed by a discussion of the role of social protection and insurance instruments in this context.

Finally, Holdberg et al. warn against falling into the trap of “business as usual”. Although much of what they propose essentially is good development practice, it goes beyond business as usual. Their approach entails a more sophisticated understanding of risk management which will require designing interventions in different ways in anticipation of changing risk patterns, developing and disseminating appropriate technologies and building knowledge of specific threats and coping skills to name but a few examples.

In terms of directions for future research, the authors argue for the need for shared platforms around definitions, concepts, data, monitoring, research, and capacity building. They first argue that it is important to settle the confusion of climate adaptation theory, particularly with regard to equity, through application to actual cases of climate adaptation by the poor. We have very little evidence how the costs and benefits of climate adaptation are distributed in reality and how greater equity can be brought into the distribution process.

Other areas identified as under-researched topics are listed below:

- Differentiated effects of climate change impacts on dryland dwellers;
- Differentiation in climate adaptive capacity of dryland dwellers;
- Interactions between short-term coping, long-term adaptation, local institutions and external policy environments;
- Governance and representation of dryland dwellers in decision making for climate change adaptation;
- Climate information needs of dryland dwellers and other stakeholders, including service providers and local government, and across different timescales;
- Appropriate technological responses to climate change by private and public sectors;
- Institutional responses, what are the bases to build upon in different drylands context;
- How adaptation and mitigation can be linked to achieve synergies in drylands contexts;
- Social policy alternatives where adaptation fails;
- Conflict management particularly between pastoralists and croppers;
- Migration management and an analysis of the success and failures of sedentarization policies; and
- Livestock and famine/flood security early warning systems and weather-based insurance approaches.

By Rasmus Holdberg, Steen Lau Jorgensen, and Paul Bennett Siegel

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To enhance this analysis, the authors present a social risk management and asset-based conceptual framework intended to help inform the design of interventions that can increase the adaptive capacity of the vulnerable as well as maintain or increase the opportunities for development. This framework is applied to adaptation interventions at the household, local, national and international levels and their linkages. Several “no-regrets” social policy options for equitable risk management and improved economic growth are presented followed by a discussion of the role of social protection and insurance instruments in this context.

Finally, Holdberg et al. warn against falling into the trap of “business as usual”. Although much of what they propose essentially is good development practice, it goes beyond business as usual. Their approach entails a more sophisticated understanding of risk management which will require designing interventions in different ways in anticipation of changing risk patterns, developing and disseminating appropriate technologies and building knowledge of specific threats and coping skills to name but a few examples.

In terms of directions for future research, the authors argue for the need for shared platforms around definitions, concepts, data, monitoring, research, and capacity building. They first argue that it is important to settle the confusion of climate adaptation theory, particularly with regard to equity, through application to actual cases of climate adaptation by the poor. We have very little evidence how the costs and benefits of climate adaptation are distributed in reality and how greater equity can be brought into the distribution process.

Other areas identified as under-researched topics are listed below:

- Differentiated effects of climate change impacts on dryland dwellers;
- Differentiation in climate adaptive capacity of dryland dwellers;
- Interactions between short-term coping, long-term adaptation, local institutions and external policy environments;
- Governance and representation of dryland dwellers in decision making for climate change adaptation;
- Climate information needs of dryland dwellers and other stakeholders, including service providers and local government, and across different timescales;
- Appropriate technological responses to climate change by private and public sectors;
- Institutional responses, what are the bases to build upon in different drylands context;
- How adaptation and mitigation can be linked to achieve synergies in drylands contexts;
- Social policy alternatives where adaptation fails;
- Conflict management particularly between pastoralists and croppers;
- Migration management and an analysis of the success and failures of sedentarization policies; and
- Livestock and famine/flood security early warning systems and weather-based insurance approaches.
over definitions of human vulnerability (including relations to risk and adaptation). They recommend the adoption of the IPCC definition: vulnerability is “the degree to which a system is susceptible to, or unable to cope with, the adverse effects of climate change, including climate variability and extremes”.

The authors propose four distinct pillars for the social science research agenda on adaptation: (1) monitoring change; (2) predicting the consequences; (3) assessing policy alternatives; and (4) institutional arrangements and sharing the costs internationally.

Areas of research would include what shares of adaptation costs, for which communities, local and national governments to finance (the problem of additional costs); how to deal with cross-border spillover effects such as migration or shared rivers; how to provide incentives for adaptive actions; and how to develop international policies and institutions so they can handle the challenge of climate change perspectives. These institutions might consider the global negative externalities associated with climate change, and the global positive externalities associated with successful adaptation to climate change.

Collaboration is easily thwarted by institutional silos and by differences in objectives, philosophies, and vocabularies. A more integrated approach to managing risks associated with climate change is needed. Such an approach would span sector-specific approaches, disaster management and social protection. A good starting point would be adoption of universally shared basic operational definitions of key terms such as risk, vulnerability, and adaptation. This would help these different departments and coalitions communicate better and discover commonalities. Moreover, there is also a need for collaboration on issues related to data collection, monitoring of climate changes and their impacts, policy research, and capacity building.

Andy White
Coordinator, Rights & Resources Initiative “Social Aspects of Mitigation”

Shifting the focus to the social aspects of mitigation, Andy White provided insight into past approaches to development in forest areas, the urgent need to recognize ownership rights of communities and Indigenous Peoples over forest lands, and the shape of things to come. He concluded with recommendations for the role the international community and the World Bank can play in scaling up efforts to advance equitable forest governance and development.

As the demand for forest land is currently much higher than its supply, this unbalanced relationship has created political turbulence which pits poor forest peoples against mounting pressures of advancing economies to invest, gain political influence and stimulate trade. As Andy White stated, the world is heading for a “last great global land grab” as the previously viewed “hinterland” becomes more valuable and vulnerable. As the world’s global poor try to hold on to their only capital assets – their land – an increase in the number of conflicts over land can be expected.

In the past 50 years, approaches to development in forest areas have shifted from a focus on industrial extraction and export; to environmental protection; to social, participatory forestry; to today’s market-based conservation. While these approaches have improved over time, they are all imposed from the outside and do not reflect local aspirations. Security of forest tenure has been increasing among communities and Indigenous Peoples, however, the majority of forest land is still administered by governments. It is important to recognize the private property owned by the group because this gives communities a sense of place and dignity and enables adaptation to change without losing valuable assets. Legal recognition is not sufficient. This requires a strong internal organization and political will to protect rights and access to legal support and arbitration.

Andy White provided recommendations for actions which the global development community, governments, communities and civil society, and the private sector should take in order to scale up investments which recognize land ownership and amplify local voices in all forest development initiatives. Specifically, he stated that the global development community should push the REDD (Reduced Emissions from Deforestation and Degradation) agenda and all related funding to support the recognition of customary land rights and equitable governance. Moreover, he advocated for improved facilitation of information-sharing and promoting transparency initiatives.

The World Bank in particular can contribute to these efforts by developing standards and priorities for carbon funds through working with communities, including the human rights aspect in World Bank’s social safeguard policies, and exploring sector studies and research to include forest rights, growth and development.
Summaries of Papers and Keynote Addresses

Social Dimensions of Climate Change Workshop 2008

Speakers

Navin K. Rai
Lead Social Development Specialist and Indigenous Peoples Coordinator, The World Bank

Rebecca Adamson
President, First Peoples Worldwide

Dennis Martinez
Co-Chair, Indigenous Peoples’ Restoration Network of the Society for Ecological Restoration International

“Indigenous Peoples and Climate Change” (panel discussion)

Indigenous Peoples account for 5% of the world’s population, yet they protect and care for 22% of the Earth’s land surface, 80% of remaining biodiversity, and 90% of the cultural diversity on this planet. Navin Rai gave an informative presentation on the historical role of Indigenous Peoples as active stewards of this heritage with full enforcement regime by way of customary practice and traditional institutions.

Dennis Martinez explained the brilliance of Traditional Ecological Knowledge (TEK) and bridged the differing conceptual frameworks behind TEK and Western science. Martinez presented numerous examples of low-cost local technologies developed by Indigenous Peoples with thousands of years of empirical data proving their efficacy.

Rebecca Adamson continued with presenting a persuasive case for considering Indigenous Peoples as unique repositories of learning and knowledge on coping with climate change and adapting to major environmental changes at local level stating that Indigenous Peoples have been too long at the margins of this debate on climate change. Yet, they seem to be the only people with a proven understanding of the social engineering and technology that is needed to live in a productive protective balance with the planet.

Ms. Adamson asserted that IP’s possess a profound paradigm of protection and production, intricately tied together across all sectors of Indigenous societies, such as conservation, economics, natural resource management, health, education and development. In contrast, the current climate change paradigm of mitigation and adaptation takes a capitalization structure for conservation protection that is very costly, and does not address the fundamental need for accountability of place. Indigenous societies have proven that systems designed for protection and production rely upon structures that maintain fairness and uphold accountability as a key and immutable design principle. This indigenous paradigm of protection and production allows tremendous decentralized innovation and low cost technologies to develop at the grassroots level and requires systems of accountability and fairness in order to operate.

In light of this, Ms. Adamson argued for a new role for the World Bank: namely, to ensure that operations be designed to support adaptation to climate change and not further compound the vulnerability of Indigenous Peoples or undermine their customary rights to lands and natural resources. There is a strong need for research on the impact climate change will have on asset-devaluation and poor people’s wealth and begin to incorporate designs that emanate from the bottom up. New skills will need to be honed, including listening to and trusting poor people to guide the decisions that most affect their lives. There needs to be clear, inclusive, transparent, fair principles for designing the systems and directly connecting capital to community as well as equivalency and fairness in resources, particularly with regard to resource deployment and utilization.

Speakers

Adamson, Rebecca
President, First Peoples Worldwide

Ms. Rebecca Adamson, a Cherokee, is the President and Founder of First Peoples Worldwide (1997), and the Founder of First Nations Development Institute (1980). She has worked with grassroots tribal communities, and nationally as an advocate on local tribal issues since 1970. Her work contributed towards the establishment of a new field of culturally appropriate, values-driven development which helped create: i) the first reservation-based micro-enterprise loan fund in the United States; ii) the first tribal investment model; iii) a national movement for reservation land reform; and iv) legislation that established new standards of accountability regarding federal trust responsibility for Native Americans.

Adamson is on the Board of Directors for the Calvert Social Investment Fund (the largest family of socially responsible funds), and co-founded the Calvert High Social Impact Investments, which was the first financial instrument whereby mutual fund shareholders and other individual investors could invest in community development loan funds.

Ms. Rebecca Adamson, a Cherokee, is the President and Founder of First Peoples Worldwide (1997), and the Founder of First Nations Development Institute (1980). She has worked with grassroots tribal communities, and nationally as an advocate on local tribal issues since 1970. Her work contributed towards the establishment of a new field of culturally appropriate, values-driven development which helped create: i) the first reservation-based micro-enterprise loan fund in the United States; ii) the first tribal investment model; iii) a national movement for reservation land reform; and iv) legislation that established new standards of accountability regarding federal trust responsibility for Native Americans.

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Agrawal, Arun
Associate Professor, School of Natural Resources and Environment
University of Michigan

Arun Agrawal works on the politics of international development and environmental conservation, with a focus on institutional change, property rights, poverty, and biodiversity. He has written extensively on indigenous knowledge, community-based conservation, common property, population and resources, and environmental identities. His research interests include the decentralization of environmental policy (especially forestry and wildlife), with a focus on South Asia.

Aguilar, Lorena
Senior Advisor on Gender
World Conservation Union

Lorena Aguilar is senior gender advisor to the World Conservation Union and regional coordinator of the Social Area in Mesoamerica. She is an international advisor for numerous organizations, governments and universities on topics related to water, environmental health, and gender and community participation. With a master’s degree in anthropology, Aguilar, who majored in cultural ecology at the University of Kansas, has worked for ten years in the field of development and in the design of public policy projects in Central America. For the past eight years she has been actively engaged in the incorporation of social and gender aspects into the use and conservation of natural resources in Mesoamerica. Over the past two years over 6,000 people have been trained methodologies she developed. Ms. Aguilar has published 20 books and several publications about gender and environment, environmental health, and public policy involving equity issues, that have been translated into several languages and are widely referenced in worldwide project implementation.

Ahmad, Junaid
Sector Manager
Social Development in the South Asia Region, World Bank

Junaid Ahmad is Sector Manager for Social Development in the World Bank’s South Asia Region. Mr. Ahmad joined the Bank in February 1991 as a Young Professional. He has since held various positions, his most recent assignment being Regional Team Leader for the Water and Sanitation Program in New Delhi. Drawing on his cross-sectoral experience of public finance, local government, and infrastructure, Junaid’s priorities are to consolidate and implement the Regional Social Development Strategy, to support the Region’s focus on scaling up services to the local and community levels, and to assist the Country Teams to address the challenges of social inclusion and conflict.

Buhaug, Halvard
Senior Researcher, Center for the Study of Civil War
International Peace Research Institute

Halvard Buhaug is a senior researcher of the Center for the Study of Civil War (CSCW) at the International Peace Research Institute (PRIO), Oslo. He also teaches at the Department of Sociology and Political Science at Norwegian University of Science and Technology. His research areas are conflict data management, the geography of refugee flows, and dyadic patterns of civil war. He has published numbers of articles on conflict, including “Skaper klimaendring krig? [Will Climate Change Lead to More War?]”. Dr. Buhaug received his PhD in Political Science from Norwegian University of Science and Technology.
Buvinic, Mayra
Sector Director
Poverty Reduction Gender, World Bank
Mayra Buvinic is an internationally respected expert on gender and social development, and the World Bank’s senior spokesperson on gender and development issues. Before joining the Bank in 2005, she was Chief of the Social Development Division at the Inter-American Development Bank and the Special Advisor on Violence Prevention. Prior to this, she was a founding member and President of the International Center for Research on Women (ICRW). Ms. Buvinic holds a PhD and a master’s degree both in social psychology from the University of Wisconsin.

Campbell, Kim, Rt. Hon.
Former Prime Minister of Canada and Former Secretary to the Club of Madrid
Kim Campbell served as Canada’s nineteenth and first female Prime Minister in 1993. After her tenure as Prime Minister, Campbell was a Fellow at the Institute of Politics (Spring 1994) and the Joan Shorenstein Center for the Study of Press and Politics (1994-1995) at the John F. Kennedy School of Government at Harvard. She served as the Canadian Consul-General in Los Angeles from 1996-2000. In 2001 Ms. Campbell became a Fellow at the new Center for Public Leadership at the Kennedy School and then was invited to join the faculty as a lecturer and remains an Honorary Fellow of the center.
Kim Campbell was educated at the University of British Columbia (BA, 1969; LLB, 1983) and the London School of Economics (Doctoral studies in Soviet Government, ABD, 1970-73) where she is an Honorary Fellow. She holds seven honorary doctorates. Her best-selling political memoir Time and Chance was published in 1996 by Doubleday Canada.

Chassard, Joëlle
Manager
Carbon Finance Unit, World Bank
Joëlle Chassard manages the World Bank’s carbon finance business, a portfolio of 10 carbon funds and facilities with participations from 16 governments and 65 companies totalling $2.1 billion. The funds purchase carbon credits from projects in the Bank’s client countries, under the flexible mechanisms of the Kyoto Protocol — the Clean Development Mechanism in developing countries and Joint Implementation in countries with economies in transition. Close to 100 emission reductions purchase agreements have been signed, representing 200 million tons of carbon dioxide equivalent.
Ms. Chassard graduated with a master’s degree in business administration from HEC, France, and a master’s degree in international relations from the Johns Hopkins University School of Advanced International Studies. Prior to joining the World Bank, she was an economist at Société Générale in Paris.

Devarajan, Shantayanan
Chief Economist
South Asia Vice President Office, World Bank
Shantayanan Devarajan is the Chief Economist of the World Bank’s South Asia Region. Since joining the World Bank in 1991, he has been a Principal Economist and Research Manager for Public Economics in the Development Research Group, as well as the Chief Economist of the Human Development Network. He was the Director of the World Development Report 2004, Making Services Work for Poor People. Before 1991, he was on the faculty of Harvard University’s John F. Kennedy School of Government. The author or co-author of over 100 publications, Mr. Devarajan’s research covers public economics, trade policy, natural resources and the environment, and general equilibrium modeling of developing countries. Born in Sri Lanka, Mr. Devarajan received his B.A. in mathematics from Princeton University and his Ph. D. in economics from the University of California at Berkeley.
Ferris, Elizabeth G.
Senior Fellow, Foreign Policy Studies Program and Co-Director, Brookings-Bern Project on Internal Displacement, Brookings Institution

Dr. Elizabeth G. Ferris is Senior Fellow in the Foreign Policy Studies Program at the Brookings Institution in Washington, DC and Co-Director of the Brookings-Bern Project on Internal Displacement. She also teaches a graduate course in Georgetown University’s School of Foreign Service.

Prior to joining Brookings in November 2006, Dr. Ferris spent 20 years working in the field of international humanitarian response, most recently in Geneva, Switzerland at the World Council of Churches. She has also served as Chair of the International Council of Voluntary Agencies (ICVA), as Research Director for the Life & Peace Institute in Uppsala, Sweden, as Director of the Church World Service Immigration and Refugee Program in New York. She has been a professor at several US universities and served as a Fulbright professor to the Universidad Autónoma de México in Mexico City.

She has written or edited six books and many articles on humanitarian and human rights issues which have been published in both academic and policy journals. Her current research interests focus on the politics of humanitarian action and on the role of civil society in protecting displaced populations.

Georgieva, Kristalina
Acting Vice President, Sustainable Development Network, World Bank

Kristalina Georgieva assumed responsibilities for strategy and operations in the World Bank Sustainable Development Network on April 9, 2007. With the World Bank since 1993, Kristalina has held a number of technical and managerial positions in Bank operations and on issues of environment and sustainable development.

Prior to joining the World Bank in 1993, she held a range of academic and consulting positions in Bulgaria, the United Kingdom, and the US, and has lectured on development topics in a large number of universities around the world. Kristalina Georgieva received her PhD in Economics and her M.A. in Political Economy and Sociology from the University of National and World Economy in Sofia. She also did post-graduate research and studies in natural resource economics and environmental policy in the London School of Economics School and at the Massachusetts Institute of Technology.

Guerrero, Isabel
Country Director of India, World Bank

Ms. Guerrero joined the Bank in 1982 as a Young Professional. She has since held various positions, her most recent assignment being Country Director, Colombia and Mexico in the Latin America and the Caribbean Vice Presidency.

In this position, Ms. Guerrero’s top priorities are to: 1) lead the Bank’s engagement with an important partner and a significant work program in close collaboration with IFC and MIGA; 2) build on the scaling-up in the social sectors that has already taken place, with particular emphasis on engagement at the sub-national level; and 3) monitor the performance of the Bank’s portfolio and to continue to set high standards for the Bank’s relationship, products and services to counterparts in India.

Jorgensen, Steen
Sector Director, Social Development, World Bank

Steen Lau Jorgensen is currently the Director for Social Development in the Sustainable Development Network of the World Bank. Prior to this appointment, he was acting Vice President for the Environment and Socially Sustainable Development network. In his more than 20 years in the Bank, he has worked on strategy and operational activities across a number of themes including human, economic and social development, as well as governance and community empowerment. Mr. Jorgensen has also held corporate jobs in the Bank working for Regional and Senior Management.

Mr. Jorgensen is the co-author of two strategy papers, “Empowering People by Transforming Institutions: Social Development in World Bank Organizations” and the “Social Protection Sector Strategy from Safety Net to Springboard”, as well as academic publications on community development and poverty analysis.

Mr. Jorgensen holds a post-graduate degree in Economics from the University of Aarhus, Denmark.
Joshi-Ghani, Abha
Sector Manager, Finance, Economics and Urban, World Bank

Ms. Abha Joshi-Ghani is Urban Sector Manager for the Finance, Economics, and Urban Department (FEU) in the Sustainable Development Network Vice Presidency.

Ms. Joshi-Ghani joined the Bank in 1992 as Financial Officer in the Cofinancing and Financial Advisory Services Department. In 1999, she was assigned to the East Asia Region’s Thailand Country Office as a Senior Infrastructure Specialist. Her most recent assignment was Lead Infrastructure Specialist in the Urban and Water unit of South Asia Region’s Sustainable Development Department.

Kagia, Ruth
Sector Director, Human Development, World Bank

Ruth Kagia joined the Bank in August 1989 after a career in public service in Africa spanning close to 20 years. For the first six years at the Bank, she worked as an education specialist in the Africa and the East Asia Regions. She has served as a Human Development Sector Manager in the Africa region, a Director for Strategy and Operations in the Human Development Network anchor, and an Education Sector Director for Education, the position she currently holds. In her current position, Mrs. Kagia has provided strategic oversight and coordination of the Bank’s education sector staffing and sector work program. She has also led the implementation of the Millennium Development Goal agenda on education including the establishment of the Education For All fast-track initiative as well as the preparation of several policy and strategic documents in education including reports on secondary education, education in post-conflict countries, education and economic growth, and has recently edited a book on the key development achievements of the World Bank 1995-2005.

Kende-Robb, Caroline
Sector Manager, Social Development, World Bank

Caroline Kende-Robb is the Sector Manager for Social Development at the World Bank. Prior to her current assignment, she was the first Social Development Specialist recruited by the International Monetary Fund, with responsibility for promoting a greater poverty and social development focus in Fund-supported programs. At the IMF, Ms. Kende-Robb also worked with IMF country teams to develop poverty and social impact analysis (PSIA) and poverty reduction strategy papers (PRSP).

Ms. Kende-Robb has an MSc from the London School of Economics in Social Policy in Developing Countries and has published a book titled, Can the Poor Influence Policy? Participatory Poverty Assessments in the Developing World.

Little, Peter D.
Professor of Anthropology
Emory University

Dr. Peter D. Little is Professor of Anthropology at Emory University, Atlanta, Georgia. He has also held positions as Chair and Professor of Anthropology, University of Kentucky (1994-2007), Research Associate Professor, State University of New York (1999-2004), and Program Director and Senior Research Associate at the Institute for Development Anthropology, Binghamton, New York (1983-1994).

During the past 27 years, Dr. Little has researched and directed interdisciplinary programs on development and globalization, natural resources management, pastoralism and risk management, and drought and food insecurity in several African countries, but with primary emphasis on eastern Africa, including the African Horn.

Dr. Little has published more than 100 journal articles, book chapters, and research reports and eight books. Among his major publications are Somalis: Economy Without State (2003; Talbot Book Prize and Choice Academic Book Award), Understanding and Reducing Persistent Poverty in Africa (with C. Barrett and M. Carter, 2008), The Elusive Granary: Herder, Farmer, and State in Northern Kenya (1992), and Lands at Risk in the Third World: Local Level Perspectives (with M. Horowitz, 1987).
Maumoon, Dunya
Deputy Minister of Foreign Affairs
Maldives

Her Excellency Ms. Dunya Maumoon was appointed as the Deputy Minister of Foreign Affairs on 15 March 2007. Since her appointment, and as the head of the International Affairs Directorate of the Ministry, Ms. Maumoon has played an active role in promoting the concerns of the Maldives at various international fora, including the UN and the World Bank. Ms. Maumoon also has extensive experience on the promotion of human rights and the impacts of climate change. In this capacity, the Deputy Minister has strongly advocated for the security of small island developing states, highlighting their vulnerability in the face of adverse climate change. Prior to her appointment Ms. Maumoon was the Assistant Representative of the United Nations Population Fund (1998-2006) during which time she played a pioneering and leadership role in the field of women’s rights and youth empowerment in the Maldives. During her tenure she was able to successfully advocate and implement programs for the health and empowerment of women and adolescents in the Maldives.

Mayaki, Ibrahim
Former Prime Minister of Niger and
Current Executive Director, Rural Hub In Francophone Africa

After working as Public Administration Professor in Niger (1975-1978 and 1982-1985) and Technical Advisor (1978-1982) and Ministry of Planning (1985-1987), Mr. Mayaki occupied the position of General Secretary at the SOMAIR (AREVA subsidiary). Between 1996 and 1999, he was successively Minister of Foreign Affairs, then Prime Minister of the Republic of Niger. Guest professor for four years at the University of Paris XI, he lectured on international relations and organizations. He has served as the Executive Director of the Rural Hub since July 2004.

Morton, John
Social Anthropologist
Natural Resources Institute

John Morton is Professor of Development Anthropology, and Associate Research Director (Social Sciences) at the Natural Resources Institute, University of Greenwich, UK. A social anthropologist by training, he studied for a BA at the University of Cambridge, and gained a PhD from the University of Hull. After periods working as a consultant and researcher for a number of NGOs and international agencies in Sudan and Pakistan, he moved to the Natural Resources Institute in 1993. While he has carried out research and consultancy work on a variety of development topics, including participatory research methodologies, crop marketing, irrigation, and refugee situations, his main work has focused on social, institutional and policy aspects of livestock and pastoral development. Geographically, he has worked in many countries throughout Africa, but in particular in the Horn of Africa, as well as Pakistan, India, China and Mongolia. From 2005 he served as Lead Author on smallholder and subsistence agriculture for the Working Group on Impacts, Adaptation and Vulnerability of the Intergovernmental Panel on Climate Change.

Moser, Caroline
Director, Global Urban Research Centre,
School of Environment and Development
University of Manchester

Caroline Moser is the Director of the Global Urban Research Centre, School of Environment and Development University of Manchester. She is also a Visiting Fellow at Brookings Institution and a Senior Research Associate, Overseas Development Institute, London. Previously she was Lead Specialist, Social Development, Latin America and the Caribbean Region, in the World Bank, and prior to that a Lecturer at the London School of Economics. She has published on urban poverty, household vulnerability and coping strategies under structural adjustment; human rights, social protection, gender and development.
Esther Mwaura-Muiru is a founder and coordinator of GROOTS Kenya. Growing up in complete poverty in a rural area of Kenya’s Central Province, she earned a merit scholarship to attend University. Esther is a regional organizer for GROOTS International and the Huairou Commission in Africa.

Don Nelson is a Senior Research Associate in the Tyndall Centre for Climate Change Research at the University of East Anglia, UK. He is also an adjunct professor in the Bureau of Applied Research in Anthropology at the University of Arizona, USA.

Kyle Peters is Director of Country Services, in the Operations Policy and Country Services (OPCS) Vice Presidency of the World Bank. Mr. Peters provides operational support through corporate reviews and good practice lessons to the Bank’s senior management and country programs/staff on issues related to Country Assistance Strategies, development policy lending, and selected investment lending; catalyzes Bank efforts to strengthen the results focus of Bank strategies, instruments, and reporting; and coordinates institutional responses to global emergencies and institutional initiatives.

Navin K. Rai is the Lead Specialist and Team Leader for the Inclusion and Social Safeguards Team in the Bank’s Social Development Department. In this capacity, he coordinates the implementation of the Bank’s social safeguards policies as well as the program on Indigenous Peoples and Climate Change and the Pilot Initiative on Enhancing Development Benefits to Local Communities in Bank-financed Hydropower Projects. In addition, as the World Bank coordinator on Indigenous Peoples issues, Mr. Rai oversees the formulation and implementation of the World Bank strategy and policy on Indigenous Peoples.
Raleigh, Clionadh
Guest Senior Researcher
International Peace Research Institute, Oslo

Dr. Clionadh Raleigh (MA, PhD Geography) is a researcher at the University of Essex. She recently completed her dissertation on the spatial and temporal patterns of conflict and governance in Central African countries. She developed the Armed Conflict Location and Event Data (ACLED) to track the dynamics of conflicts over time. Her current work concerns the local impacts of climate change in developing countries, the political geography of conflict, African civil war patterns, and spatial econometrics. She has recently begun a project of drought-induced migration in East Africa. She has worked for the Centre for the Study of Civil War at the International Peace Research Institute in Oslo since 2004.

Toulmin, Camilla
Director
International Institute for Environment and Development

Camilla Toulmin is Director of the International Institute for Environment & Development (IIED), having formerly run the Drylands Programme from 1987-2002. An economist by training, her work has focused on social, economic, and environmental development in dryland Africa. This has combined field research, policy analysis, capacity building and advocacy, with strategic management of the program. It has involved engaging with people at many different levels from farmers and researchers, to national governments, NGOs, donor agencies and international bodies. As Director of IIED since February 2004, Camilla has focused on developing the Institute’s strategy and encouraging greater cohesion between the diverse areas of IIED’s work. She has initiated a process of re-structuring which will bring together ten smaller programs into four larger groups, working on: human settlements, natural resources, climate change, and sustainable markets. She has organized a major conference on land and property rights in Africa, feeding into the Blair Commission for Africa’s work. She has also been consolidating the Institute’s funding base, through stronger relations with its principal donors. Further attention is being focused on achieving a better match between IIED’s findings and external events and opportunities to influence policy.

Voegele, Juergen
Director
Agriculture and Rural Development, World Bank

Mr. Voegele initially joined the Bank in 1991 through the Young Professionals Program. He has since held various positions in East Asia and the Pacific as well as Europe and Central Asia, his most recent assignment being Sector Manager for Rural Development in Europe and Central Asia.

As the Director of the Agriculture and Rural Development, Mr. Voegele’s three priorities are to: 1) drive the operationalisation of the 2008 World Development Report on Agriculture; 2) advance the Climate Change agenda with a focus on mitigation and adaptation in agriculture; and 3) provide strategic leadership on strategy, policy, and innovation, while ensuring that the sector family has the skills and knowledge resources to meet the challenge.

Wang, Ren
Director
Consultative Group on International Agricultural Research

Dr. Ren Wang obtained his PhD in Entomology in 1985 at the Virginia Polytechnic Institute & State University, Blacksburg, Virginia, USA. He played a leadership role in developing China’s agricultural research strategies and planning and in the international agricultural R&D with extensive experiences and strong capabilities in developing, organizing and coordinating international cooperative programs. As the DG-Research of IRRI, he provided leadership in developing IRRI’s new initiatives in Sub-Saharan Africa and the Central Asia, the IRRI-CIMMYT Alliance programs, and the development of IRRI’s new strategic plan (2007-2015). He managed IRRI’s research programs and the outreach offices in 14 countries. He has represented IRRI in the steering committees of many regional and global programs, consortia, and through which developed close cooperative relationship with the leaders and scientists of national agricultural research and extension systems (NARES) in Asia and Africa. He has published more than 50 scientific papers, books, and book chapters.

Dr. Wang was appointed as the Director of Consultative Group on International Agricultural Research in July 2007.
Watson, Bob
Chief Scientist, Department for Environment and Rural Affairs, Government of the United Kingdom, and Former Chair of IPCC

Professor Bob Watson has been the Chief Scientific Adviser for the Department for Environment, Food and Rural Affairs (Defra) since September 2007. He is responsible for the broad range of science that falls under Defra’s remit. His main role is to provide ministers with the best possible scientific advice and build on existing measures to ensure that science and technology are used to inform policy. He also supports the UK Government’s scientific work on minimizing the effects of climate change and improving sustainability by promoting consistency across Defra and working together with other Government departments.

Bob Watson was previously at the World Bank where he was the Chief Scientist and Senior Advisor for Sustainable Development. He has also held senior positions at NASA and, more recently, at the White House, where he was responsible for ensuring that science underpinned policy making.

Watson, Bob

Watt-Cloutier, Sheila
Former Chair, Inuit Circumpolar Conference

Sheila Watt-Cloutier currently resides in Iqaluit, Nunavut. She was born in Kuujjuaq, Nunavik (northern Quebec), and was raised traditionally in her early years before attending school in southern Canada and in Churchill, Manitoba. She is the past Chair of Inuit Circumpolar Council (ICC), the organization that represents internationally the 155,000 Inuit of Canada, Greenland, Alaska, and Chukotka in the Far East of the Federation of Russia. Ms. Watt-Cloutier was a political spokesperson for Inuit for over a decade.

Ms. Watt-Cloutier is the recipient of many international honors and awards, including the inaugural Global Environment Award from the World Association of NGOs, the 2004 Aboriginal Achievement Award for Environment, the United Nations Champion of the Earth Award (2005), the inaugural Northern Medal from the Governor General of Canada, the Rachel Carson Prize (2007), and the 2007 Mahbub ul Haq Human Development Award, presented by United Nations Secretary General Ban Ki Moon. She was also publicly nominated for the Nobel Peace Prize in 2007 by members of the Norwegian parliament, including the former Minister of the Environment.

Watt-Cloutier, Sheila

Wheeler, Graeme
Managing Director, World Bank

Mr. Wheeler is currently Managing Director for Operations in the World Bank. He previously held the position of Vice President and Treasurer of the World Bank from August 2001. He joined the World Bank in 1997 as Director of the Financial Products and Services Department. For the previous four years, he was the Treasurer of the New Zealand Debt Management Office and a Deputy Secretary to the New Zealand Treasury. Prior to this, he was Managing Director of Macroeconomic Policy and Forecasting in the New Zealand Treasury. During the second half of the 1980s, Mr. Wheeler was the Economic Counselor for the New Zealand Delegation to the Organization for Economic Cooperation and Development in Paris.

Mr. Wheeler is the author of a book on sound practice in government debt management, and a recipient of the Staff Association’s Good Manager Award in the World Bank.

Wheeler, Graeme

White, Andy
Coordinator, Rights and Resources Initiative

Andy is the Coordinator of the Rights and Resources Initiative and the President of the Rights and Resources Group. Prior to joining Rights and Resources he served as Senior Director of Programs at Forest Trends and Natural Resource Management Specialist at the World Bank, as well as worked as a consultant to the International Food Policy Research Center, Save the Children Federation and the Inter-American Foundation. He has worked extensively in Haiti, Mexico and China and supervises policy research and engagement Asia, Latin America and Africa. His own research and project work has focused on forest tenure and policy, as well as international trade and forest industry. He has a PhD in forest economics and a MA in anthropology from the University of Minnesota.

White, Andy

White, Andy
Coordinator, Rights and Resources Initiative
Zelenev, Sergei  
Chief, Social Integration Section  
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Dr. Sergei Zelenev is the Chief of the Social Integration Branch in the UN Department of Economic and Social Affairs (UN/DESA), which is responsible for providing substantive support to the UN’s intergovernmental policy dialogue of Member States and for facilitating international cooperation on a range of social development issues. Specifically, he is responsible for overseeing the conceptualization, research and production of UN/DESA publications on inclusive policy issues, ageing, youth and family, including reports which are submitted to the Commission for Social Development, the Economic and Social Council and the UN General Assembly. Since 1981, he has contributed inputs to all UN Reports on the World Social Situation published by UN/DESA.

Main areas of personal research interest include social protection, social inclusion, youth and ageing in various settings. He is the author of a book and many articles on economic and social development, published in Russian and English.

Educated in Russia and USA, he received his MBA from New York University (Stern School of Business) and MA and PhD in Economics from Moscow State Institute of International Relations (MGIMO-University).

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<td>Chief Scientist, Department of Environment and Rural Affairs, UK Government</td>
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<td>Watts-Cloutier</td>
<td>Sheila</td>
<td>Former Chair, Inuit Circumpolar Conference</td>
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<td>Wiles</td>
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<td>Chief, Social Integration Branch / DEIA, United Nations</td>
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# List of World Bank Participants

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<tr>
<td>Agostini</td>
<td>Paola</td>
<td>Senior Economist, Environment &amp; Natural Resources Management Unit, Africa Region</td>
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<td>Ahmad</td>
<td>Nilufar</td>
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<td>Behr</td>
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Useful Climate Change Websites

The Social Dimensions of Climate Change at the World Bank
URL: http://www.worldbank.org/sov
The Social Development Department of the World Bank is taking the lead to build a greater understanding of how climate change affects people’s lives and communities around the world, especially in developing countries, and of what can be done to reduce their vulnerability and build climate resilience. This website offers comprehensive information about the social dimensions of climate change work program.

Overview of Climate Change at the World Bank
URL: http://go.worldbank.org/W13H8ZXSD1
While global warming and climate changes affect people and the natural environment everywhere, the World Bank Group believes that developing countries are more vulnerable to the effects of climate change than rich countries. Climate change impacts directly on the World Bank’s mission of poverty reduction, and has the potential to hamper the achievement of many of the United Nations Millennium Development Goals. This website provides the most updated information about the World Bank’s activities on Climate Change.

The World Bank Climate Change Portal
URL: http://sdwebx.worldbank.org/climateportal/
This portal is intended to provide quick and readily accessible climate and climate-related data to development practitioners. It is developed and maintained by the Environment Department at the World Bank.

World Development Report 2010 Climate Change Blog
URL: http://climatechangeblog.worldbank.org/
This blog is hosted by the authors of the World Bank’s upcoming World Development Report 2010. “Development in a Changing Climate”. It is a forum to get broad-based input on fundamental questions relating to climate change and development.

IPCC Reports
URL: http://www.ipcc.ch/ipccreports/index.htm
The main activity of the IPCC is to provide in regular intervals Assessment Reports of the state of knowledge on climate change. The latest one is “Climate Change 2007”, the Fourth IPCC Assessment Report. The IPCC produces also Special Reports, Methodology Reports, Technical Papers, and Supporting Material, often in response to requests from the Conference of the Parties to the UNFCCC, or from other environmental Conventions.

weADAPT
URL: http://www.weadapt.org/
weADAPT is a collaborative platform for climate adaptation which draws together a wide range of partners to share experience, tools and case studies to create a dynamic community and knowledge base for adaptation. weADAPT provides robust guidance on adaptation decision-making, with tools to explore both climate uncertainty and vulnerability, and also the different methods of making decisions.

World Bank’s Recent Publications on Environment and Development
Climate Change Adaptation and Mitigation in Development Programs
This report provides practical guidance to development practitioners for systematically analyzing the direct and indirect effects of development policy reforms on climate change. It also examines how climate change affects the choice of instruments used to promote sustainable development.

The Strategic Framework on Development and Climate Change for the World Bank Group
This Strategic Framework serves to guide and support the operational response of the World Bank Group (WBG) to new development challenges posed by global climate change.

The World Development Report 2010
URL: http://go.worldbank.org/5ZDGZ95CD0
The upcoming World Development Report (WDR) 2010, “Development in a Changing Climate,” will tackle three questions: (i) What does climate change mean for development? (ii) What does development mean for climate change? (iii) What does all this mean for policy?

Environment Matters 2007
URL: http://www.worldbank.org/environmentmatters
Environment Matters is the World Bank’s annual environmental review. This report emphasizes that climate change – and developing countries’ adaptation to it – is a critical challenge that must be integrated into core development strategies. In this issue, the World Bank’s top climate change and environment experts together with other distinguished contributors give frank assessments of what is currently known (and not known) on key subjects linked to adaptation, including climate variability, biodiversity, social dimensions, and water security, and makes concrete recommendations for the way forward.
Poverty and the Environment - Understanding Linkages at the Household Level

Drawing upon recent analytical work prepared inside and outside the World Bank, this report identifies key lessons concerning the linkages between poverty and the environment. With a focus on the contribution of environmental resources to household welfare, the analysis increases our understanding of how specific reforms and interventions can have an impact on the health and livelihoods of poor people. Other publications related to environment and development can be found at: http://go.worldbank.org/S8FWG1FXZ0

Seminal Publications on Climate Change and Development

The Stern Review
URL: http://www.hm-treasury.gov.uk/sternreview_index.htm
The Review set out to provide a report to the Prime Minister and Chancellor by Autumn 2006 assessing the nature of the economic challenges of climate change and how they can be met, both in the UK and globally.

The Millennium Ecosystem Assessment
URL: http://www.millenniumassessment.org/en/index.aspx
The Millennium Ecosystem Assessment assessed the consequences of ecosystem change for human well-being. From 2001 to 2005, the MA involved the work of more than 1,360 experts worldwide. Their findings provide a state-of-the-art scientific appraisal of the condition and trends in the world’s ecosystems and the services they provide, as well as the scientific basis for action to conserve and use them sustainably.

The Human Development Report 2007/2008 warns that inequalities in the ability to cope with climate change are emerging as an increasingly powerful driver of wider inequalities between and within countries. It calls on rich countries to put climate change adaptation at the center of international partnerships on poverty reduction.

Social Dimensions of Climate Change Workshop Agenda (March 5-6 2008)

Sponsored by The Social Development Department of the World Bank Group, The Norwegian Ministry of Foreign Affairs and the United Kingdom’s Department for International Development

WEDNESDAY MARCH 5, 2008
Morning Session – Open to the Public
Registration & Breakfast | 8:30-9:00 am
Eugene R. Black Auditorium (H Building) Entrance on G Street between 19th and 20th Streets NW

Opening Session
9:00 - 11:00 am
Kristalina Georgieva, Chair
Acting Vice President, Sustainable Development Network, World Bank

Keynote Address
The Importance of Social Dimensions of Climate Change
Bob Watson
Chief Scientist, Department for Environment and Rural Affairs Government of the United Kingdom Former Chair of the Intergovernmental Panel on Climate Change (which was awarded the 2007 Nobel Peace Prize)

Keynote Address
Conflict Related Aspects of Climate Change
Rt. Hon. Kim Campbell
Former Prime Minister of Canada and Former Secretary General of the Club of Madrid

Keynote Address
The Human Dimension of Climate Change in the Maldives and Small Island States
Her Excellency Dunya Maumoon
Deputy Foreign Minister, Republic of the Maldives

Seminar on Poverty and the Environment - Understanding Linkages at the Household Level

Steen Jorgensen, Chair
Director, Social Development Department, World Bank

COFFEE BREAK | 11:00-11:30 AM
Keynote Address

Indigenous Peoples and Climate Change
Sheila Watt-Cloutier
Former Chair, Inuit Circumpolar Conference

Keynote Address

Challenges of Climate Change
Mitigation and Adaptation in Africa
Dr. Ibrahim Mayaki
Former Prime Minister of Niger
Current Executive Director of Rural Hub, Africa

Buffet Lunch with Q&A
1:00 - 2:15 pm
Acknowledging the Linkages: Gender and Climate Change

Workshop I, with Q&A
2:15 - 4:15 pm
Wednesday March 5, 2008
Technical Research Workshops—Open To All Bank Staff
By Invitation Only To External Participants

Implications of Climate Change for Conflict and Migration

Presenter

Implications of Climate Change for Armed Conflict
Halvard Buhaug
Senior Researcher
International Peace Research Institute, Oslo

Assessing the Impact of Climate Change on Migration and Conflict
Clionadh Raleigh
Guest Senior Researcher
International Peace Research Institute, Oslo

Discussants

Don Nelson
Tyndall Research Center on Climate Change
University of East Anglia

Workshop II, with Q&A

4:30 - 5:45 pm
Climate Change, Urban Governance and Social Policy

Presenter

Pro-Poor Climate Change Adaptation in the Urban Centre of Low- and Middle-Income Countries
Caroline Moser
Director
Global Urban Research Centre
School of Environment and Development, University of Manchester

Discussants

Junaid Ahmad
Sector Manager, South Asia Region
World Bank

Esther Mwaaura-Muiru
Founder and Director, GROOTS Kenya
Steering Committee Member, UNDP Equator Initiative

Elizabeth Ferris
Senior Fellow and Co-Director
Brookings-Bern Project on Internal Displacement
Brookings Institution

Moderator

Kyle Peters
Director, Country Services
World Bank

COFFEE BREAK | 4:15-4:30 PM
Moderator
Abha Joshi-Ghani
Sector Manager, Urban Development
World Bank

Participatory Wrap-Up Session
5:45 - 6:00 pm
Key Messages Emerging From Day 1

Moderator
Caroline Kende-Robb
Sector Manager, Social Development Department
World Bank

Cocktail Reception
12th floor – MC Building 6:00 pm onward

Introduction
Kristalina Georgieva
Acting Vice President, Sustainable Development Network
World Bank

Speaker
Graeme Wheeler
Managing Director
World Bank

THURSDAY MARCH 6, 2008
Breakfast | 8:30 - 9:00 Am
I Building , Room I2-250 1850 I Street N.W.
(Visitors Entrance on I Street)

Workshop III, with Q&A
9:00 - 11:00 am
Implications of Climate Change for Rural Institutions and Drylands

Presenter
Arun Agrawal
Associate Professor
School of Natural Resources and Environment
University of Michigan

Discussants
Ren Wang
Director
Consultative on International Agricultural Research (CGIAR)
World Bank

Peter D. Little
Professor
Anthropology and Rural Sociology
University of Kentucky

Moderator
Camilla Toulmin
Director
International Institute for Environment and Development

Workshop IV, with Q&A
11:30 - 1:00 pm
Implications of Climate Change for Social Policy

Presenter
Steen Jorgensen
Director, Social Development Department
World Bank

Discussants
Sergei Zeleny
Chief, Social Integration Branch
Department of Economic & Social Affairs
United Nations
Shanta Devarajan
Chief Economist, South Asia Vice President Office
World Bank

Moderator
Ruth Kagia
Sector Director, Human Development Network
World Bank

COFFEE BREAK | 4:15 - 4:30 PM

Box Lunch
1:00 - 2:30 pm
Social Aspects Of Mitigation (Panel Discussion)

Presenters/Discussants
Andy White
Coordinator, Rights & Resources Initiative

Joelle Chassard
Manager, Carbon Finance Unit
World Bank

Moderator
Juegeren Voegle
Director, Agriculture & Rural Department
World Bank

Workshop V, with Q&A
2:30 - 4:00 pm
Indigenous People and Climate Change

Presenter
Navin K. Rai
Lead Specialist, Social Development Department and Indigenous Peoples Coordinator
World Bank

Discussants
Rebecca Adamson
President
First Peoples Worldwide

Moderator
Camilla Toulmin
Director
International Institute for Environment and Development

(Co-chair: World Bank)

Panelists and discussants

Workshop Participants
Social Dimensions of Climate Change Workshop 2008

**Presenter**

Caroline Moser  
Director  
Global Urban Research Centre, School of Environment and Development  
University of Manchester

**Discussants**

Ellen Watten  
Department for International Development, UK

**Hans Olav Ibrekk**  
Norwegian Agency for Development Cooperation

**Closing Remarks**

Steen Jorgensen  
Director, Social Development Department  
World Bank

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**Endnotes**


16 Social accountability here refers to “the broad range of actions and mechanisms beyond voting that citizens can use to hold the state to account, as well as actions on the part of government, civil society, media and other societal actors that promote or facilitate these efforts” (World Bank, Social Accountability Sourcebook, available at: www.worldbank.org/socialdevelopment). It is particularly important that citizens be empowered to participate in defining appropriate forms of climate action on the part of their governments, and have access to information to enable them to monitor the consequences of these actions.
