Shifting the Discourse:
Climate Change as an Issue of Human
Security

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1. Executive summary

An ESF exploratory workshop on "Shifting the Discourse: Climate Change as an Issue of Human Security" was held in Oslo, Norway from June 21-23, 2007. The aim of this workshop was to bring together a diverse group of scholars to discuss and debate the issue of climate change and its relationship to the emerging concept of human security. Framing climate change as an issue of human security raises many questions and concerns about the capacity of societies to respond to current and future change in a reflexive and ethical manner. It raises questions of responsibilities and duties, power, politics, race, class and gender—issues that are often swept aside in international scientific and policy debates about climate change. It also directs attention to the role of values, beliefs, worldviews and ethics, which are fundamental to efforts to address both threats and opportunities linked to climate change. Finally, it leads to new ideas about alternative futures, taking as points of departure sources of knowledge that are often discounted or bypassed by standard scientific discourses and methodologies. These questions were discussed and debated at length during the workshop.

The workshop convened with a dinner on Thursday night, where participants were welcomed and introductions were made. One participant sent regrets due to a family matter. The official meeting began on Friday morning, with a discussion of the goals and objectives of the workshop. Two keynote presentations were given, after which the meeting organized around four thematic panels. The first session focused on climate change and human security; the second session addressed issues of human security, poverty and globalization; the third session considered issues related to equity and human rights; and the fourth and final session discussed the capacity to address climate change. Each session was followed by a discussion, which increased in length as the meeting progressed, in order to integrate earlier discussions. The chairs of each session were responsible for keeping the discussions focused and raising new topics when appropriate.

The workshop included 21 participants from 8 countries, in addition to organizational support and a scientist representing the European Science Foundation. While most of the participants were European, some experts from outside the region were included in the program to include some of the leading voices on ethics and human security. It was recognized that there is high mobility among researchers dealing with these issues, but that scholars from Africa, Asia, and Latin America are not well represented in international meetings and debates about climate change and human security, including in the exploratory workshop. The gender balance was distorted towards men, which is a reflection of fewer female senior researchers working in this area. Several younger scholars participated in the meeting, including one woman.

An international press release was distributed after the meeting. One expected outcome of the exploratory workshop is an edited book. Another outcome is likely to be a special session organized at the next Open Meeting of the Human Dimensions of Global Change Research Community (New Delhi, 2008). Also we plan to organize a joint meeting between climate change scientists, poverty experts and ethicist in Bergen looking at the ways in which these three issues interact. A long-term measure of the success of the workshop will be whether the issues discussed at the meeting are

incorporated into the outline for the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

2. Scientific content of the event

The scientific content of the workshop reflected the diverse perspectives and backgrounds that scholars brought to the meeting. The combination of climate change researchers with experts on ethics, poverty, and human rights led to lively discussions and debates about the implications of climate change for human security.

Keynote Presentations

Henry Shue opened the meeting with a keynote speech on "Deadly Delays", where he emphasized that the security of people in the future should be a key concern now. He noted that the understanding of our place as agents in the world has become inappropriate for a global age, and inappropriate for future generations. This is due to the limited size of agents' moral world, the limited conception of human social relations, and the tendency to give acts primacy over omission, near primacy over far, and individual primacy over group. Shue presented four theses about the nature of human agency:

> 1. Failure to deal with climate change inflicts harm on future generations. It represents not an omission, but an action (if climate change were a natural phenomenon, humans would be guilty of not helping (i.e., omission) but they would not be accountable for their action). Humans are inflicting harm on people who are vulnerable to us. Causation through time runs one way -- we are not vulnerable to them.
> 2. Failing to deal with climate change inflicts harm on yet-later generations who could have been spared. Time passes, but the problem remains. Assuming that addressing the problem earlier reduces harm to future generations, there is no present basis for continuing the use of fossil fuels. While some greenhouse gas emissions serve good purposes, some of it is pointless and frivolous, which is fine unless it creates harm.
> 3. Failure to deal with climate change creates opportunities for positive feedbacks that would otherwise not occur (negative feedbacks may also occur, but most research shows that they are more likely to be positive). It is morally wrong to subject others to these opportunities.
> 4. Failure to deal with climate change creates opportunities for the global environment to become catastrophically worse, and for changes that are irreversible.

Climate change is a paradigm uncertainty case: the possibility is established, while the probability is incalculable. The ones who have to worry are the young and their children, including those who bear no responsibility for the problems. The challenge for today's society is not to help, but to stop from harming.

A second keynote address was given by Helge Drange, who talked about "Climate Change: What do we know, what do we not know, and what does it mean." He presented the science of climate change and emphasized that recent anomalies are

beginning to show that we will have a totally different climate than before. There is more CO2 in the atmosphere than at any time in the past 650,000 years, and business as usual will lead us to 960 ppm, which has not been the case since 20 million years ago. The increase is mainly caused by the burning of coal, oil and gas. Maintaining a 2degC increase requires a 50% cut in CO2, in developed countries, as well as in countries such as China, Brazil, India and Mexico. A 3degC increase will lead to irreversible changes, including the melting of the Greenland Ice Sheet. There is no analogue for such a climate over the past three million years. Sea level rise of two to four meters is expected over the next two centuries. Already, global sea levels are rising at the upper end of the range of IPCC projections, and the melting of sea ice is occurring at a higher rate than projected. It will take until the next glacial period, 20-50,000 years from now, to transform the melted water back into ice.

Drange emphasized that regardless of what humans do now to mitigate greenhouse gas emissions, some warming will be experienced over the coming years, and we will not see the difference of our actions. In other words, there is no instant gratification associated with climate change mitigation. Big differences in climate are expected by the end of this century, and the projections are not exaggerated. In fact, the changes are likely to be stronger than projected due to positive feedbacks and a climate sensitivity that is larger than previously estimated. The target of a 2degC temperature increase will be difficult to meet. The European heat wave of 2003 will be normal in the summer of 2050.

A discussion based on these first talks raised some important questions about future generations and responsibility, and issues of agency and motivation (fear as disempowering). But about questions related to current generations, especially about those most vulnerable (the poor in poor countries but also the poor and vulnerable in advanced economies). The question of whether past generations have failed us was raised, and different concepts of harm, and duties to protect were discussed. Mitigation was presented as a moral problem, with the disaggregation of "we" presented as a challenge, as well as the agnostic term of "dealing with" climate change.

Panel 1: Climate Change and Human Security

The first panel examined the relationship between human security and climate change. Karen O'Brien discussed the limitations of dealing with climate change as an environmental issue, and emphasized that although addressing climate change through better management, through changes in behavior, or through better market incentives is necessary, it is insufficient. Such responses do not address issues of equity, rights, and ethics, which are superimposed on a world that is increasingly interconnected. The problems associated with climate change are not just about the environment, but about the way that society is organized (politically, economically, and socially). A focus on the environment draws attention to the global scale of the problem, and frames equity in terms of a North-South divide. A human security approach to climate change, in contrast, takes society as a diverse collection of individuals and communities with needs, wants, rights, values, priorities, and worldviews. It recognizes that it may be in the interest of some to keep things as they are, and to allow for climate change in order to maintain, power, dominance, economic growth, familiar consumption patterns, and so on. A human security approach also highlights

that climate change is one process among many—a threat that interacts with other processes to create both winners and losers. A small degree of climate change, which many may be able to cope with or adapt to, can push the most vulnerable over the edge into situations of insecurity. O'Brien used the example of Norway to show how the framing of climate change influences responses, including the failure to respond.

Gunnhild Hoogensen then discussed how climate change can influence wider security debates. Recognizing that many disciplines are taking on the concept of human security, she drew attention to the nexus, or areas of convergence in security debates. Traditional security studies focus on war and conflict among states, and treats humans as the contents of the state, which need to be secured. The environment is considered low politics, whereas security is regarded as high politics. Unless the environment threatens the state, it remains a low security concern. At the end of the Cold War, more dimensions of security were considered, including the relationship between environment and security. Human security has emerged, but it has difficulty engaging the dominant discourse, which focuses on the state. Hoogensen raised the question of whether climate change can break the barriers between state security and human security.

Des Gasper reflected on the idea of human security, looking more closely at the emerging concept and the roles that human security plays in establishing a discursive field. He argued that there has thus far not been enough focus on "human" in debates about human security. It is not enough to focus on the individual as the referent for the concept of security—the nature of the referent must also be considered. Nevertheless, the role of an intellectual framework is to provide a shared language; to guide evaluations, to guide positive analysis; to focus attention in policy design, and to motivate action. Gasper also discussed the need for a heightened normative focus on individual rights. He stressed that it is important to look at who is using the human security discourse, and who is avoiding it. There has been a tendency to attack the idea of human security, contrasting it with the notion of freedom. Most attacks have been on policy grounds, and in fear that the discourse on human security may undermine the authority of the state. Human security identifies things intellectually that are hard to handle politically, including the psychic insecurities of the rich and the military instincts of Americans and other former colonial powers. He urged the workshop to consider whether and how a human security perspective on climate change can bring "analytical traction" to the debate.

Hans Georg Bohle discussed human security in terms of tangible conditions in a village in southern India. He presented two storylines for the same village. First was the resilient storyline, which considers vulnerability to three consecutive droughts in India between 2001 and 2004. In one village, shallow wells were built during the Green Revolution to supplement groundwater. The water table fell to 40 m during the drought, and some farmers drilled deeper wells. According to this storyline, the delta system was resilient due to these deeper wells. Second was the human security storyline, which draws attention to politics, places, and people, and the fact that drought is not the only stressor. The basin and delta region has experienced uneven development in terms of water use (especially restrictions to the use of the upper river, dating back to colonial times). During the drought, reservoir development restricted water use. In a village with 100 households, 60 are landless laborers who already live at the margin. Demand for labor declined during the drought, thus they needed "food

for work" programs or to migrate. Small farmers were forced to buy water from rich farmers (5 farmers own 65% of the land). These wealthy farmers were able to take over land from distressed farmers or get free labor in return for water. The second storyline showed that multiple and dynamic stressors generate vulnerabilities, and that there are limits to adaptation for the majority. Who loses and who gains from climate change becomes evident.

Panel 1 Discussion

The discussion based on these four papers focused on the following questions:

- How does an emerging discourse on human security and climate change relate to discourses on vulnerability, resilience, and human rights?
- What are the implications of a human security framing of climate change for policy and action?
- Do framings of climate change as a national security concern contribute to or detract from broader human security perspectives?

Interventions drew attention to the disadvantages of the human security concept, particularly the fact that the dominant security discourse is statist and nationalistically constituted. Some argued that human security has the potential to dislodge the dominant discourse (The loose use of the word "discourse" was, however, questioned.). Whereas political ecology tends to focus on conflicts, the human security discourse adds equity, justice, and other normative dimensions. However, it was pointed out that environmental security was appropriated by institutions such as the Pentagon, and that human security could become mere rhetoric. The question of whether rights claims can coexist with economic rationality was raised. Economics is a tool of power. It was argued that although social dimensions of climate change are important, democracy is also critical. The assumption that "contents" of states are secured within traditional security discourses was considered faulty. Human security is now being seen as an export commodity, especially in Canada and Norway, through their foreign policy and aid programs. Human security has been a normative framework, more than an analytical tool. There is a difference between what is important in people's lives, versus what is important in the IPCC process. The question was raised of whether we can link a new discourse to emissions scenarios. In other words, can natural sciences take on human security?

Panel 2: Human Security, Poverty and Globalization

Asun Lera St. Clair discussed similarities between debates about global poverty and climate change, comparing it to the responses taken to address poverty. In reference to statements made by high ranking UN officials about climate change as a matter of equity and values, she emphasized the need to relate the rhetoric to the dominant discourse. The dominant discourse, she argued, is economist and quantitative, disembedded from the realities of the poor, and it depoliticizes poverty and tends to ignore the role of power and social relations. Most of all, it divides "us" from "them" (i.e., the wealthy from the poor) in irreconcilable ways. The is a history of disassociation between man made environmental change and poverty, while much 'poverty' has been blamed on bad weather leading to disastrous policy choices. It is thus important to pay attention to the framings of questions, the dominant scientific

knowledge and the dominant variety of policy proposals. Most of these ignore the political economy and the ethical and value questions relating to poverty, and the relationship between poverty and climate. An ethical language acts as a justificatory frame, rather than as a fundamental point of departure. The climate change debate, St. Clair argues, has already shown similar characteristics. Her three main arguments are that; 1) climate change needs to be framed (scientifically, politically and ethically) as intrinsically linked to questions of poverty; 2) that the global debate about climate change is already too similar to the ways in which poverty has been treated, and thus may lead to a similar situation where we have the scientific and economic capacity to eradicate poverty but we are not doing it; and 3) climate change and poverty are the two most important ethical challenges for our generation, and even more so if they are seen as interrelated. There is a danger that climate change vulnerability is becoming a question of aid and thus diluting the possibility to frame climate change as a question of justice. Development aid is often a means to discipline the poor rather than a concerted effort to solve poverty. To permit the framing of climate change as aid will lead to similar results. Moreover, in the same was as alternative framings of poverty tend to be dismissed as bad knowledge, there is an already dominant framing in climate change discourse that relegates to non-knowledge alternative perspectives. There is also a danger that the adaptation of the rich will be prioritized over adaptation of the poor. Shifting the discourse will require addressing the ways in which scientific and political discourse on climate change is framed. Ethics as usual will not do the job, and we need a different way of thinking about these issues, philosophically as well as economically and in collaboration wit scientific discourse. St. Clair uses the example of the Stern Review as exemplar of a dominant framing, explicitly normative, yet mostly economistic and technocratic that leaves very little space for alternative framings of climate change, as well as for a more serious consideration of ethical issues.

Siri Eriksen then took the discussion to the local level and showed how different sources of security and insecurity are distributed geographically and socially in Mozambique. Her case study focused on household vulnerability in Guara-Guara, which experienced floods in 2000, but also droughts, which receive less attention. Her analysis focused on how factors such as increased trade in agricultural produce differentially influenced the capacity of people to cope with floods and droughts. She showed that there were large differences in household vulnerability between adjacent villages, linked to their access to water, health and markets. Processes such as land reform and economic liberalization, which were often considered "distant", had an important role in determining to security. Commercial production and trade was often carried out by outsiders, thus people external to the village often benefited more from trade than those in the village. A convergence of insecurity led to negative effects on the quality of life. At the same time, many people are invisible to government institutions. Her findings show that local inequality has been reshaped by a combination of policy responses and interventions resulting from the 2000 floods and market integration processes. One response has been spiritual—a rise in the number of ceremonies in response to household insecurities.

Mark Pelling discussed the linkages between climate change, disasters, and development. He discussed the extent to which disaster events can be linked to human security through political conflict, and presented a framework for analyzing large natural disasters. A key question was the extent to which disaster moments reveal the

distribution of wealth and power, and offer opportunities for redistribution. Pelling emphasized the role of social contracts and human security. Although climate change introduces new vulnerabilities and new hazards, it also brings new opportunities for increasing human security. He identified pre-disaster political relations as an important influence on the extent to which the potential for political change is realized or contained by the political elite (thus fortifying the status quo). Disasters bring increased attention to development failures and group mobilization, but context is everything. The mode and scale of security is often contested, and can even be antagonistic. Disasters reveal shortfalls in rights and unmet needs, yet disasters can also be moments for claiming rights. Yet most humanitarian responses focus on meeting basic needs, whereas rights claims are ignored.

Indra de Soysa raised issues related to globalization, sustainability, climate change. He pointed out that it is important to identify what we mean by sustainability, and regardless of definition, capital matters. In fact, all forms of capital need to be sustained. Investments in capital require foresight and involved foregoing consumption. De Soysa's definition of sustainable development holds that it is the ability to maintain (increase) the aggregate value of manufactured, human, and natural capital, with natural capital being defined as anything in nature providing value to human beings.

The globalization theme continued as Francesco Sindico discussed the relationship between climate change and international trade, and the security implications. He focused specifically on the legal relationship between the climate change regime and the WTO, and how they present both legal challenges and policy opportunities. His starting assumption was that climate change is a sustainable development problem that, if not solved, may become an international peace and security issue. Yet there is a wide scope for disagreement and potential clashes between the climate and trade regimes. The measures that countries adopt in their domestic climate policies in response to an international climate regime (taxes, subsidies, technical regulations and labeling) can create clashes with the WTO norms. International emissions trading, the Clean Development Mechanism, and Joint Implementation mechanisms may also create legal challenges within the WTO framework, including questions of trade discrimination. He concluded by discussing three main challenges: the absence of an inherent normative hierarch between the two sets of norms in international law; the non-Party dilemma; and the possibility of future trade sanctions within Kyoto compliance mechanisms. More optimistically, he noted that there may be some policy space for discussing the interactions between climate and trade within the WTO Doha Round and its negotiations on environmental goods and services.

Panel 2 Discussion

The discussion following this panel of talks was based on the following questions:

- The overlaps between concerns for poverty and development and the environment tend to be addressed through the idea of sustainable development. What fundamental challenges does a shift in the discourse on climate change towards human security pose for 'sustainable development'?
- How do globalization processes support or threaten the emerging discourse on human security?

Interventions stressed the importance of examining hidden assumptions in existing legal frameworks, particularly normative assumptions. Issues of procedural and distributive justice need to be recognized. Issues like trade and climate change are not neutral. Within the WTO, judges will have to decide between two norms, and there is an assumption that they will not prioritize one over another. Ethical questions are often hidden in dominant discourses, but points of agreement do exist. With the increase in non-tariff barriers, there is potential for the powerful to use these to promote their own interests. Although it is possible to insert all sorts of ethical issues into the climate change debate, there are dangers too, as big ethical questions often have no answers. Discussions turned to the Stern Review and its emphasis of Cost Benefit Analysis, which was portrayed in the discussion as a reflection of the dominant discourse on economics and rational action and a very thin version of utilitarian ethics (which has been highly criticized as ill prepared to deal with poverty issues). . It was pointed out that the Stern Review looked at other metrics (i.e., mortality) for framing the climate change issue, and came to the conclusion that it was not possible. However, others argued that it simply represents the "cutting edge progressive discourse" and fails to acknowledge alternative understandings. It can be considered dangerous because it has power. It accepts the risk of loss of place, species, and even countries, i.e. the loss of basic rights. It places different monetary values on lives, depending on where they are located. Although the Stern Review raises rights, it knocks them down and then moves on to an economic analysis. It was argued that economics is schizophrenic, and that utilitarian ethics is not new, but simply a specific form of utilitarianism in economics.

During the discussion it was emphasized that most sources of insecurity have local manifestations that are invisible in international treaties, but at the same time which can be affected by international treaties. The role of norms across scales can be considered important but confusing. Disasters as events when norms and values are renegotiated were also discussed, with a distinction between universal norms and values and those that are culturally specific. This raised the questions of what are the core values worth preserving, and whether we can use economics to measure these. There are examples where people have reached limits or exceeded thresholds of insecurity (e.g., farmer suicides in India). Climate change adaptation can be seen as an urgent priority, but it is not just a technical problem. The tendency to prioritize physical structures rather than social structures was noted as a crucial issue that deserves attention and research . Adaptation resources tend to go to the international economy, rather than to strengthening the local economy while there is already evidence that putting resources in people's hands is one of the most direct ways to contra rest negative impacts from climate change. The CDM was discussed as a potential win-win situation, but it was also pointed out that it has not promoted sustainable development. In fact, most projects go to China, for landfill gas capture, and not for creating jobs or livelihoods.

There is not a danger of overreacting to climate change, protection for possible harm justifies it. It may be that ethics need to change, and that philosophers need to engage more with other disciplines. It was pointed out that a thin economic moral view is still a moral view. Ethics is not something separate or additional but it is embedded in the ways science, economics and politics is made. If we talk about shifting a paradigm away from a dominant neo-classical paradigm, we have to think more carefully about

what it would look like. Human security is closely linked to national security. Are there other possibilities? A focus on rights was deemed important, but also a broad understanding of human security as an offspring of basic needs and basic human rights discourses.

Panel 3: Equity and Human Rights

Timmons Roberts began the day by talking about why inequality matters in climate change. He argued that a global climate agreement without southern participation is of little value – Kyoto is binding only on 19% of emissions. Inequality within and between nations drives desperation (vulnerability) in the global South. It drives anger at the injustice of the distribution of goods, and leads to an inability and unwillingness to participate in emissions reductions. This creates a stalemate that supports "structuralist" perspectives reinforces particularistic world views. Savage inequality can lead to a zero-sum approach. A world system perspective views a world system of inequality, with a structure that is more or less stable. Development doesn't happen in a country, but at the global level. One country grows at the expense of others. There is a pump of value from peripheral countries to core countries. It is an old idea adapted to a new liberalism. A central idea of an environmental justice perspective is that waste flows downhill. If there is unequal power and resources, the environmental problems will be displaced, often overseas. Yet the corrosive impact of inequality is underappreciated. We need a global "New Deal" that includes a new fairness consensus and a focus on development and equity.

Joan Martinez Allier followed with a talk about ecological economics and studies of metabolic flows in the economy. He argued that climate change conflicts are one kind of ecological distribution conflict. It raises questions of which are the languages of valuation, and whether the language of economics should prevail. Physical indicators represent a vulgar materialist approach, whereas sustainability indicators represent material flows. Economy goes to commodity frontier for extraction and dumping of waste. Environmental justice movements are growing. An important point is that externalities are not so much market failures, as cost-shifting successes. He gave a number of examples of environmental problems that reflect this, and discussed the notion of ecological debt, whereby claims for repayment for environmental degradation from North to South bring together the carbon exchange. Human security can be considered a language of valuation.

Donald Brown then presented the case for understanding climate change policies as triggering human rights violations. He argued that ethics and normative questions are key to resolving the issues. Distributive justice and fairness are at the heart of climate change, but never identified. Within the policy arena, scientists, economists, and lawyers structure the debates. Opening up discourses for ethical questions is key. Philosophers are debating meta-ethical issues, not real controversies or real arguments. They need to understand science and economics in order to displace them and thus open space for ethical reflection. People confuse legal rights with rights issues. This is reflecting in the IPCC Working Group III report. What is a human right? Brown differentiated legal assertions versus moral claims. Rights can be embedded in a constitution, or represent a moral claim. But rights trump other interests, such as utilitarian calculations. If climate change triggers human rights violations, then things will have to change. Who will pay for the damages? He then

discussed where rights come from and how they have evolved, and why climate change is a human rights issue. He recognized that some rights are more accepted (civil, political, security rights are more accepted than economic, social and cultural rights). The burden is on nations to show that the basis for being treated differently is a morally relevant consideration. There is a need for an ethical equivalent to realclimate.org. The ethical issues need to be more visible.

Simon Caney discussed global justice, human rights and climate change, focusing on what's wrong with climate change. It first and foremost jeopardizes human rights, and forces us to adapt and revise them. How do we frame rights to deal with environmental issues, to cope with the global nature of problems? We can't isolate climate justice from other issues, including economic and political power. One should integrate climate change with other concerns. The existence of fundamental rights generates duties on others – the duty to address the problems that you cause. Some have an interest in not being exposed to heat stress, vector-borne diseases, etc. These are not trivial interests, but fundamental ones. Upholding these interests does not impose unreasonable costs. If people have a right not to be exposed to dangerous climate change, then what is the appropriate level of climate change that we can tolerate? Regarding the future, some say that the future has no rights, which is ridiculous. Some say that the future has no interests, or one that is subject to a discount rate. Cost-benefit analysis represents a different way of thinking. But irreversibility amplifies the cost. The context is fundamental. There are risk takers and risk bearers, thus the ethics of risk sharing need to be examined. If it is consensual, then perhaps it is not a problem. But it is not. What is a fair level of protection? Perhaps a Rawls-inspired principle of selecting a rule that one would be willing to adhere to, which you would have wanted preceding generations to adhere to. Current levels of emissions regulations have failed to meet this principle.

Desmond McNeil returned to the power of markets when discussing ethics, politics and the global environment. The market is increasing in scope and has more and more power. Can ethics rule when the dominant global ethic is the market? Discussions are often based on weighted preferences of all market participants, weighted by income. Although people recognize that markets of imperfect, there is still a tendency for expert economists to ask "What would the market say, or how would the market guide us?" The power of cost-benefit analysis has increased over time, and has become very powerful in decision and policy-making. NcNeil argues that it is wrong, biased, and imperfect. Because it is based entirely on expert knowledge, it is a black box that excludes participation (thus undemocratic). The ethics of sustainable development raises issues about values across rich and poor, humans and nature, present and future generations. Each has a moral gradient, and there are discontinuities: People value those closest to them (family, own children), higher mammals, etc. But the gradient may flatten over time. Are we more caring now than we were 50 years ago? It seems to vary between cultures, and remain asymmetrical (obligations of the rich to poor are greater than from poor to rich, humans to nature, present to future). A key point to remember is that "Economics is our servant, not our master." We can shift the discourse away from economic ways of thinking, while allowing the language of economics to guide us."

Stephen Gardiner concluded the panel by considering whether geoengineering is the "lesser evil"? A number of proposals have been put forth to initiate geo-engineering

projects, such as injecting sulfur into the stratosphere to modify the planetary albedo and thus cool the planet. The argument is that this represents a backstop technology, and a "lesser evil". It is recognized that we need both mitigation and adaptation, or else we could experience catastrophic impacts in 50 years. There is a call to do research now on potential geoengineering projects. Scientists are concerned that we have not done anything due to political inertia (they say nothing about why there is political inertia…). The situation represents a perfect moral storm. The dispersion of causes and effects and the fragmentation of agency create a global storm, while the temporal dimension and atmospheric lifetime of greenhouse gases, coupled to the timeframe of major climatic processes, creates an intergenerational storm. This raises the problem of intergenerational back-passing, whereby benefits to us (now) impose costs to them (later). It also creates a theoretical storm around scientific uncertainty. This leads to the problem of moral corruption: there is a quite clamor for hypocrisy and deception. A moral emergency leads to exemptions from normal moral constraints. Morality becomes an inconvenience, but declarations of moral emergencies are open to manipulation. We need to scrutinize the argument and develop scenarios for geoengineering based on foresight, technology, and ethical decision-making. But we don't face this emergence. We can still prepare for other options. Preparing for an emergency that is brought about by a moral failure is difficult to argue for. Why prioritize research on geoengineering over other research? The lesser evil argument doesn't clearly state what you count as the greater evil (species loss versus income loss). People have different things in mind. The appeal of geoengineering is in the moral seriousness of climate change, the overriding consequences, and a rejection of absolutism. But the resulting responses include denial, opacity, and a shallow consensus.

Panel 3 Discussion

A lively discussion about human rights, ethics, and climate change followed the panel presentations. The following questions framed the discussion:

- Equity and human rights challenge the fundamental assumptions of the dominant scientific discourse on climate change. What key issues are raised by introducing concerns for equity and human rights, and what are the implications for the scientific- and economics-driven policy responses to climate change?
- Are equity and rights-based approaches key to feasible and sustainable solutions to climate change?

It was argued that human rights violations structure vulnerability to climate change (as seen in the case of East Timor). The history of development and modernity represents another perfect moral storm, and highlights the need to develop a normative analysis of climate change that takes into account ethics and human rights and how this cross cuts with questions of poverty and development. Human rights is seen as a powerful, relevant language, but that is not enough as often rights are interpreted only in their liberal tradition (with a primacy of liberty rights at the expense of socio-economic and cultural rights), but also because rights language often tends to be legalistic and nationalistic. Human security should be considered a complement to human rights. It was pointed out that there are different spheres of justice – a market sphere, a family sphere, etc., each with different rights. Although it

is difficult to discuss values without raising issues of cultural imperialism, there are still ways to deal with them – e.g. by ranking priorities and getting to the authentic values. To shift the discourse, we need to distinguish between what is most effective in understanding an issue, versus what works in changing the situation. The human security discourse will continue to be attacked, thus there is a need to articulate what we want it to say. Shifting the discourse becomes "shifting the values" so perhaps we should look at theories of value change. People hold values that are not articulated in public space, and changing specifics is often easier than changing values.

Ideas with analytical or moral power get lost or distorted. Human rights has been taken over by lawyers. Poverty as an issue of human rights seems powerful and can make a difference but it tends to be repressed or distorted. Can human security be distorted by national security concerns? Human rights raise awareness about climate change, and tends to trump other discourses. But it can also be extended to intellectual property rights, and things can go haywire. Human security is a synthesis of human rights, development, and needs. It incorporates and prioritizes within human rights. Questions were raised about how human rights and human security link to the local vision. Can we use an ethical vision to look at local level responses? Are capabilities a part of human rights? Rights may be one thing, but implementation is another. Given rent-seeking behavior, adaptations to climate change may be neither effective nor efficient. The goal of the UNFCCC is to avoid dangerous climate change, but there is no such thing as dangerous climate change. Danger is something from the outside, but risk is calculable. We are not even adapted to the present climate, thus we need to reduce present day risks associated with climate change. Since zero risk is impossible, it is important to consider who is brought into procedures. Future generations are clearly excluded, but we've committed ourselves to some degree of change, probably for the next few generations. New generations may frame these issues in different ways.

It was pointed out that geoengineering examples already exist (Russian river manipulations, carbon capture and storage, soot particles). They are dangerous because they have to keep going, long into the future. Using forests to sequester CO_2 from the atmosphere works as long as trees grow, and as long as carbon is stored as wood. But keeping it as wood for 500 years is difficult. And some "forest sequestration projects" are not only dubious, but also highly unethical.

Panel 4: Reflexivity and the Capacity to Address Climate Change

The final panel began with a presentation by Andrew Light on mitigation versus adaptation as two approaches to climate justice. He pointed out that it is easy to make a moral argument for doing something about climate change. The past to present is characterized by a development disparity, while the present to future is characterized by intergenerational responses. What is the optimal moral balance in responses to climate change? The standard progressive position calls for adaptation for the present generation. Lomborg argues that those in developing countries further in the future who benefit from mitigation may object to the failure to expend resources to help their immediate ancestors to adapt to climate change. But although adaptation may be site-specific, mitigation is not. In some cases, the distinction between mitigation and adaptation breaks down on temporal scales. Light discussed why posterity matters (based on Ovner de Shelit, 1996): Part of our obligations to the future is driven by

what we want them to think of us. How do we want future generations to judge us? Do we want them to see that we did something, even if failed, or that we did not do anything?

Livia Bizikova then discussed the linkages between adaptation, mitigation and sustainable development. She argued that the linkages are mostly addressed at the theoretical level, without venues for their implementation under diverse local circumstances. Bizikova discussed two alternative approaches to linking climate change and sustainable development. The first addresses climate change policies within sustainable development, while the second approach focuses on making sure that sustainable development principles are adhered to in climate policies. She argued that the initial "pollution" view of climate change led to a focus on mitigation, and showed a figure that organized understandings of the relationship between vulnerability reduction and emission reduction. Actions that fulfilled vulnerability reduction and emissions reduction were considered to be part of sustainable development (e.g. drought preparedness through demand-side management). She stressed the need for case studies that document how adaptive capacity and mitigative capacity lead to alternative development pathways. Using the example of the mountain pine beetle epidemic and harvest response in Canada, she concluded that there is interest in exploring the synergies between adaptation and mitigation when the focus is on addressing existing sustainable development challenges.

Neil Adger presented a paper on fair decision making in a new climate of risk, where he and his co-author argued that a central element of human security is the ability of individuals to shape their own resilience and futures. There is a need to focus on decision-making structures and procedural justice in everyday decisions. IPCC Working Group II has shown that changes are causing impacts today, and that adaptation is happening today. Different people are vulnerable to adaptation strategies. Insurance companies are already adjusting risk premiums, withdrawing coverage in some areas. The capacity to adapt is uneven between and within countries. Vulnerable people and communities have limited access to institutional structures. There has been a call for a move towards co-management of resources, devolving management down to stakeholders who benefit. There are also experiments in adaptive governance (e.g., water governance in Brazil). The examples show that greater say in the management of resources yields greater benefits. Are these institutions likely to succeed if they are set up in advance, or in crises (as windows of opportunity). Standard critiques of decentralization argue that it is a neo-liberal cul-de-sac. They raise the chronic problems of collective action to manage water, agriculture, and forests. Adger argued that there is a significant role for public collective action in adaptation.

Jon Barnett gave the final presentation of the workshop, focusing on climate change science and policy, as if people mattered. He focused specifically on knowledge, power, and climate change in the Pacific Islands (PIs). What does climate change mean for people on these islands? Adaptation is starting to occur in some places, but not in the PIs. The PIs are a pawn in the climate change debate. The vulnerability of PIs is based on an article of faith that has taken a life of its own. But it is not as simple as the outcomes suggest. It is a colonizing discourse that is not based on research on the vulnerability of communities in the Pacific. The climate change community is happy to use PIs as examples, but we know nothing about them. Why has there been

no research? Integrated assessment models dominate research, and modeling is aggressively marketed. It doesn't work in the PIs because it ignores the social context. It presents a normalized understanding of climate change that excludes local knowledge. There is no nature-person distinction in these communities, and the world is not a series of islands, but a sea of opportunity. There is a need to "decolonize" climate change impacts. A human security approach humanizes the issue and puts people back into the picture. It raises issues of needs, rights, and values. Key questions are "What matters to you? What is your climate change problem?" If PIs could demonstrate how climate change is a human security issue, they may have more moral power. Better information can contribute to better moral power, and an ability to get it into conventions and UN processes. Such information is necessary to develop effective adaptations. A plurality of researchers are needed, but this view is not shared. Research has been a barrier to action.

Panel 4 Discussion

The questions that guided the final discussion were as follows:

- What types of alternatives need to be considered to enhance human security in the face of a changing climate?
- What are the key impediments to these alternatives, and what are the prospects for substantial change over the next years?
- What new research agendas and new areas for policy making does a fundamental shift in discourses point to?

The discussions included two or three concrete proposals that may help in shifting the discourse. First was a visionary leader or politician that was willing to take on these issues. Second was a requirement for developed countries to carry out emissions reductions at home. Finally, the renegotiation of the CDM to make it more supportive of development was proposed. Currently, the CDM does not represent emissions reductions, but business as usual.

Workshop participants were each given the opportunity in the final session to make a final statement about the themes of the workshop. These comments in general stressed the need to continue questioning the current hegemonic discourse, and to identify how human security adds to both analytical and policy debates. The value of interdisciplinary meetings and collaborations was emphasized by many, and some called for a wider engagement at multiple scales, including representatives from localities. The need for an integrated vision of what the future should look like was mentioned by a number of participants as a good way to start.

3. Assessment of the results, contribution to the future direction of the field

The meeting provided an arena for discussion among philosophers, geographers, political scientists, environmental economists, sociologists, a climate scientist, and others to share perspectives and debate one of the most important and difficult issues of the 21st Century. Before closing the meeting, each participant was asked to give some final comments about the meeting, and most felt that it had been enlightening and eye-opening to hear multiple perspectives on the issue of climate change and human security and the ways in which they are related to questions of poverty and

development with an ethical perspective. The results of the meeting were overall very positive, and most participants expressed enthusiasm for follow-up activities.

In terms of the future direction of the field, there was a strong consensus that the questions raised in the meeting need to be addressed more deeply, and that they need to become an integral part of the wider media discussions, COP meetings, IPCC reports, policy debates, and so on. One participant took the initiative to draft a press briefing, which was then circulated and distributed through the network of environmental journalists (see Appendix 1). Plans to follow up on the meeting with an edited book were discussed, and a number of participants expressed interest in this. It became clear during the meeting that the notion of "shifting the discourse" from the dominant one on climate change as an environmental problem to one that focuses on human security and raises issues of equity, ethics, human rights, poverty and development is truly a challenge but also extremely timely. Dominant discourses are dominant for a reason, and powerful discourses are seldom abandoned without resistance. Nonetheless, there is ample room for more interdisciplinary research in this field, covering different scales of analysis, different perspectives, and different approaches. One potential outcome is that a number of participants will become more closely integrated and active in international global change research programs, such as the International Human Dimensions Programme (IHDP). Two of the participants have been recently nominated to the Scientific Steering Committee, and if approved they would help promote research in this field.

Another outcome was more awareness of the interrelations between climate change, ethics and poverty, as the notion of human security endorsed by most participants (and clearly defined by GECHS) entails a holistic perspective about human life, quality of life and well being of all people in their interrelation to and embeddedness in the natural environment. Those most vulnerable to climate change are poor countries and poor sectors of societies, yet the dominant discourses already fail to prioritize the poor properly. Scientism and Economism may lead to a neglect of needed data and predictions for poor regions and poor sectors leading to unnecessary loss of human life and livelihoods and poorly coordinated humanitarian efforts. In fact, as the IPCC report states, eradicating severe poverty seems to be one of the best ways to avoid many of the negative impacts of climate change. The linkages between poverty, ethics and climate change will be further explored by some of the participants with the aim to push forward a modified agenda for development and poverty research. Likewise, advances in this field may entail a modified agenda for climate change scientists, including more regular interactions with social sciences and the humanities.

4. Final programme

Thursday, June 21, 2007

19.00	Group Dinner at Holmenkollen Park Hotel
	Welcome and introductions

Friday, June 22, 2007

9.00 – 9.15	**Goals and objectives of the workshop**
	Karen O'Brien and Asuncion Lera St. Clair, Workshop Convenors
9.15 – 9.30	**Presentation of the European Science Foundation (ESF)**
	Jacques Dubucs, ESF Standing Committee for the Humanities (SCH)
09.30 – 10.10	**Keynote lecture: Deadly Delays**
	Henry Shue, Oxford University, UK
10.10 – 10.30	**Climate Change: What do we know, what do we not know, and what does this mean?**
	Helge Drange, Bjerknes Center, Norway
10.30 – 11.00	Break
11.00 – 12.00	*Panel 1: Climate Change and Human Security (Chair:Jon Barnett)*
	Panelists: Karen O'Brien, Des Gasper, Gunhild Hoogensen, Hans Bohle
	Note: Each panel participant will present key points from their papers for 12-15 minutes; a discussion will follow all of the presentations.
	Shifting the Discourse: Climate Change an Environmental Issue versus Climate Change as a Human Security Issue
	Karen O'Brien, University of Oslo, Norway
	The Idea of Human Security
	Des Gasper, Institute for Social Studies, the Netherlands
	From National Security to Human Security
	Gunhild Hoogensen, University of Tromsø, Norway
	Human Security and Social Resilience - Complementary or Competing Discourses?
	Hans Bohle, University of Bonn, Germany
12.00 – 13.00	*Discussion*: How does an emerging discourse on human security and climate change relate to discourses on vulnerability, resilience, and human rights? What are the implications of a human security framing of climate change for policy and action? Do framings of climate change as a national security concern contribute to or detract from broader human security perspectives?
13.00 – 14.00	Lunch

| 14.00 – 15.30 | *Panel 2: Human Security, Poverty and Globalization (Chair:Desmond McNeil)* |

14.00 – 15.30   *Panel 2: Human Security, Poverty and Globalization (Chair:Desmond McNeil)*
Panelists: Asuncion Lera St. Clair, Siri Eriksen, Indra de Soysa, Francesco Sindico
Note: Each panel participant will present key points from their papers for 12-15 minutes; a discussion will follow all of the presentations.
Human Security, Global Poverty and Climate Change: Towards an integrated and holistic framing
Asuncion Lera St. Clair, University of Bergen, Norway
When security is far and insecurity is near: Geographical perspectives on human security
Siri Eriksen, University of Oslo, Norway
Human security and natural disaster
Mark Pelling, Kings College London, UK
Globalization and Human Security
Indra de Soysa, University of Trondheim, Norway
Linking Climate Change and International Trade: Implications for Human Security
Francesco Sindico, University of Jaume, Spain

15.30 – 16.00   Break

16.00 – 17.30   *Discussion*: The overlaps between concerns for poverty and development and the environment tend to be addressed through the idea of sustainable development. What fundamental challenges does a shift in the discourse on climate change towards human security pose for 'sustainable development'? How do globalization processes support or threaten the emerging discourse on human security?

19.00   Dinner in Oslo

Saturday, June 23, 2007

9.00 – 10.30   *Panel 3: Equity and Human Rights (Chair:Henry Shue)*
Panelists: J. Timmons Roberts, Joan Martinez-Alier, Donald Brown, Simon Caney, Desmond McNeil, Stephen Gardiner)
Note: Each panel participant will present key points from their papers for 12-15 minutes; a discussion will follow all of the presentations.
Climate Change: Why Inequality Matters
J. Timmons Roberts, Oxford University, UK
Climate Change, Equity and the "Ecological Debt"
Joan Martinez-Alier, University of Barcelona, Spain
The Case for Seeing Climate Change As Triggering Human Rights Violations
Donald Brown, Penn State University, US (invited, Ethics Program of Norway)
Global Justice, Human Rights and Dangerous Climate Change
Simon Caney, University of Birmingham, UK

	Ethics, politics and the global environment
	Desmond McNeil, University of Oslo, Norway
	Is Geoengineering the "Lesser Evil"?
	Stephen Gardiner, University of Washington, US
10.30 – 11.00	Break
11.00 – 13.00	*Discussion*: Equity and human rights challenge the fundamental assumptions of the dominant scientific discourse on climate change. What key issues are raised by introducing concerns for equity and human rights, and what are the implications for the scientific- and economics-driven policy responses to climate change? Are equity and rights-based approaches key to feasible and sustainable solutions to climate change?
13.00 – 14.00	Lunch
14.00 – 15.00	*Panel 4: Reflexivity and the Capacity to Address Climate Change (Co-Chairs: Karen O'Brien and Asuncion Lera St. Clair) Panelists: Andrew Light, Livia Bizikova,W. Neil Adger, Jon Barnett Note: Each panel participant will present key points from their papers for 12-15 minutes; a discussion will follow all of the presentations.*
	Mitigation vs. Reduction: Two Approaches to a Precautionary Climate Justice
	Andrew Light, University of Washington, US
	Climate Adaptation, mitigation and sustainable development: examining opportunities for translating research into action
	Livia Bizikova, Institute for Forecasting, Slovakia and University of British Columbia, Canada
	Fair decision-making in a new climate of risk
	W. Neil Adger, University of East Anglia, UK
	Climate Change Science and Policy, as if People Mattered
	Jon Barnett, University of Melbourne, Australia
15.00 – 16.00	*Discussion:* What types of alternatives need to be considered to enhance human security in the face of a changing climate? What are the key impediments to these alternatives, and what are the prospects for substantial change over the next years? What new research agendas and new areas for policy making does a fundamental shift in discourses point to?
16.00 – 17.00	Summary and Discussion of Follow-up Activities
17.00	Adjourn
19.00	Depart for Midsummer's Night Dinner, Sørkedalsvn. 246 (Røa)

5. Statistical information on participants
(age structure, gender repartition, countries of origin, etc.)

Gender representation: 16 men (excl. ESF-representative), 5 women.

Age structure: 4 persons age 30-39, 11 persons age 40-49, 3 persons age 50-59, and 3 persons age 60-69.

Countries of origin: UK: 5 persons, Spain: 2 persons, Germany: 1 person, Netherlands: 1 person, Slovakia: 1 person, Australia: 1 person, US: 3 persons, Norway: 7 persons. The Norwegian group includes 5 people who are foreign citizens, but who are working at Norwegian research institutions (UK, US, Sri Lanka, Spain and Netherlands/Canada).

6. The Final list of participants (full name and affiliation)

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Appendix I: Press Release Following the Exploratory Workshop

IMMEDIATE
Monday, July 2, 2007

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"First International Symposium identifies Climate Change as an issue of Human Security"

Ethics met science last week, ahead of next Saturday's huge "Live Earth" concerts, as a group of leading scholars met in Oslo at the first international symposium on climate change, human rights and human security. They debated for the first time whether climate change was not just a scientific or economic issue, but one of human rights and human security. The five key themes emerging were that climate change is:

- Active Infliction of Harm (on future generations and poor countries),
- A "Perfect Moral Storm" Facing 21st Century Civilization; and that:
- Economics Alone is Inadequate to the Task,
- Poverty, Climate Change, and Development are Inextricably Linked; and
- U.S. Inaction and on Geo-engineering have moral implications.

The Exploratory Workshop was funded by the European Science Foundation in an effort to bring together an interdisciplinary group of scholars to discuss emerging research issues. The symposium finished with announcement of the recent launch of a new
clearinghouse on the ethical dimensions of climate change.

Active Inflicting of Harm:

"Human security is having the capacity to respond to threats to social, human and environmental rights" explained Karen O'Brien, co-organizer of the meeting and Chair of the Global Environmental Change and Human Security project, headquartered at the University of Oslo, Norway.   "Climate change's impacts will depend upon how society is organized and the ways that individuals can respond: climate change is an issue that is first and foremost about human security."

"Business-as-usual is not just a failure to act, but an active inflicting of harm," said Oxford political theorist Henry Shue, known worldwide for forging the ideas on "basic rights" which have been widely adopted by national and international agencies.

Shue advanced his concern for ethics and foreign affairs addressing the ethical aspects of climate change. "Not acting on climate change now harms future generations, and the longer we take to act, the more generations we will harm."

"What do we want future generations to think of us?" questioned Andrew Light, of the University of Washington, US, "that we tried, or that we did nothing?"

A "Perfect Moral Storm:"

"It is difficult to think jointly about future generations," Shue reasoned, "but we are inflicting harm on defenseless others." He pointed, however, to the opportunity that climate change presents to act positively "to protect people who are entirely at our mercy—future generations." Simon Caney, also of Oxford, agrees that climate change violates the rights of people, as those who are responsible for climatic changes are the ones who benefit most. Ethical assessment of climate change, however, must go hand in hand with economic justice, Caney argued.

One problem identified by Shue and followed up by several other experts was that it is difficult to perceive our responsibility to others who are further away, not yet living, or whom we hurt only by our actions as a group (polluting). Even worse is that harming others by *failing to act* is a moral offense more difficult to perceive.

Stephen Gardiner of the University of Washington (U.S.) called climate change "A Perfect Moral Storm" because it is the convergence of three obstacles to ethical action on the issue: "(a) it is a genuinely global problem, (b) it has a large intergenerational dimension (so that we are passing major costs on to the future), and (c) our current theories are ill-equipped to deal with many aspects of it."

Most ethicists present in the meeting agreed in that there is a quite clear consensus that climate change harms people, primarily the poor, and more importantly that it harms the life chances of future generations. The scientific consensus on this is documented in major reports such as those of the Intergovernmental Panel on Climate Change (IPCC). A similar argument was made by Asun St. Clair, who stated that we must avoid political solutions to climate change that follow the principle of the wealthy countries putting their own adaptation first. The poor are the most likely victims of climatic changes: the poor and vulnerable will not only suffer first but also in a more intense way. Those most likely to die are the severely poor.

However this is changing, argued Desmond McNeil, development expert at the University of Oslo, because real impacts are being felt already, and often closer to home than expected.

"Carbon dioxide emissions from burning fossil fuels remains in the atmosphere causing potentially devastating effects for hundreds of years, and some changes may be irreversible," said Helge Drange, scientist at the Nansen Center and the Bjerknes Center in Bergen, Norway, pointing to stunning predictions made this spring by the IPCC in reports written and reviewed by hundreds of scientists around the world.

Joan Martinez-Alier of the Universitat Autonoma of Barcelona, Spain, puts climate change in a broader set of environmental impacts inflicted by wealthier nations on the

poor. "An ecologically unfair exchange happens each time undervalued products from the global South are sold to the North: a ecological debt is owed by the world's wealthy to the poor." He continued that rather than being called "'market externalities,' pollution and environmental degradation should be seen as a case of 'cost-shifting success.'"

Economics Has Legitimacy, but is Inadequate to the Task:

Donald Brown, of Penn State University in the U.S., argued that knowingly compounding climate change is a human rights violation, but that "only three types of priests are allowed in the room to discuss climate policy: scientists, economists and lawyers." Brown said philosophers were partly to blame for failing to address the issue early enough and in approachable language, a problem the meeting was designed to address.

Several philosophers examined the ethics implicit in economic logics which calculate the costs and benefits of acting aggressively to fight climate change, applying "discount rates" to future generations' suffering, as did last fall's landmark "Stern Review." Stephen Gardiner described the ethics underlying most economics as "an overly simple, even simplistic, version of utilitarianism," which do not recognize as valid the attention to basic human rights and security. Caney made the comparison to other moral decisions: "One cannot kill or torture because it will reduce costs."

Standard neoliberal economics as well as standard ethics are frameworks for analysis not adequate to the task," said Asun St. Clair, an organizer of the event from the University of Bergen, Norway. "Ethics as usual will not do the job."

Martinez-Alier put it very bluntly: "Using economic analysis is not good for poor people." Timmons Roberts, of Oxford and the U.S.'s College of William and Mary agreed, saying that "in the environment and in society, waste tends to flow downhill." He described global patterns of suffering from climate disasters which were explained largely by national poverty, inequality, and disadvantaged position in the global economy.

Poverty, Climate Change, and Development are Inextricably Linked:

This raises issues of human development and the relations between the value systems of basic human needs, human rights and human security, argued Desmond Gasper of the Institute of Social Studies in The Hague, Netherlands. These points were considered by several experts on adaptation to climate change, including Neil Adger, University of East Anglia, UK, Karen O'Brien and Siri Eriksen of the University of Oslo, and Livia Bizikova, of the Institute for Forecasting, Slovakia and the University of British Columbia, Canada.

A consensus among these scholars was that climate change threatened the prospects of positive development in poorer nations, often compounding existing vulnerabilities. Vulnerable people in both the global North and South are likely to suffer most and will need to adapt. Local people need to be incorporated in research and decision-making about how to adapt to climate change, said Jon Barnett, of the University of Melbourne, Australia. Otherwise, costly and self-defeating options may be adopted.

Barnett and Adger have recently completed a report on the links between human insecurity, violent conflict and climate change.

On U.S. Inaction and on Geo-engineering:

Donald Brown of Penn State University focused on the unethical argument of many in the U.S. to not act until China does. "The arguments being used in the U.S. to delay action are a red herring," he argued, since China has not been responsible for major past accumulation of climate change gases in the atmosphere, because per person its emissions are still less than a quarter that of Americans, and because China is now doing much of the world's manufacturing.

Stephen Gardiner argued that geo-engineering solutions like launching mirrors into space or dumping sulphur dioxide (soot) into the stratosphere place impossible demands on future generations. These solutions, discussed by Nobel Laureate Paul Crutzen, raise particular moral dilemmas if catastrophe looms, and Gardiner calls for "special scrutiny" for such calls. Rather, preventing the emergency is the only moral thing to do, and Crutzen's proposal "could worsen the problems of political inertia and intergenerational moral corruption."

A New Clearinghouse on the Moral Dimensions of Climate Change:

Brown's institute at Penn State has established a new clearinghouse on the issue, called climateethics.org, which documents efforts worldwide. It addresses issues such as Allocation, Distributive and Intergenerational Justice, Economics, Procedural Justice and Fair Process, Scientific Uncertainty, and Carbon Trading.
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Further contacts are available from the organizers.
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