

Workshop on climate change, humanitarian disasters and international development:

Linking Vulnerability, Risk Reduction and Response Capacity

27 April 2007
Oslo, Norway

Funded by the Ministry of Foreign Affairs, Norway
Organised by CICERO and GECHS

Workshop Report

Prepared by Jennifer West, CICERO



GECHS
GLOBAL ENVIRONMENTAL CHANGE
AND HUMAN SECURITY

CICERO

Senter for klimaforskning

Center for International
Climate and Environmental
Research – Oslo



**UNIVERSITY
OF OSLO**

Acknowledgements

The workshop organizers sincerely thank the Norwegian Ministry of Foreign Affairs for providing funding for the workshop and for their interest in this timely topic. Our thanks in particular to Sigvald Hauge and his colleagues at the Ministry of Foreign Affairs for providing valuable feedback and input to the original design of the workshop. We thank the speakers and panellists: Karen O'Brien, Mark Pelling, Sumaya Ahmed Zaki Eldeen, Ian Christoplos, Lisa Schipper, Mihir R. Bhatt, Madeleen Helmer, Joanne Linnerooth-Bayer, Siri Eriksen, Knut Christiansen, and Lars Otto Næss, for sharing their views and insights with all those who attended the workshop. We also extend thanks to Gunnar Eskeland for his closing remarks.

Lynn Rosentrator, GECHS

Jennifer West, CICERO

1 Executive Summary

The workshop: *Climate change, humanitarian disasters and international development: linking vulnerability, risk reduction and response capacity* was held in Oslo, Norway, on April 27, 2007. It brought together national and international researchers, policy-makers and practitioners to discuss the common challenges uniting the traditionally distinct fields of climate change, humanitarian disasters, and international development. Participants recognised that in recent years climate-induced natural hazards such as hurricanes, floods and droughts have resulted in humanitarian disasters that have reversed years of development progress, and that these trends are likely to intensify in the future unless concerted action is taken. The suggested focus on moving toward an integrated agenda led to an initial insight that **if local, national and international actors are to successfully prepare for, respond to and recover from weather-related disasters and reduce poverty, then strategies for managing disaster risks and climate impacts must be integrated into international development and humanitarian policies.**

Nonetheless, achieving an integrated approach is not without its challenges. Several speakers at the workshop noted that excessive integration, or 'integration for the sake of integration' - should be approached with caution. There are legitimate concerns within the disaster risk reduction community, for example, that climate change adaptation and general development activities are drawing funding away from needed disaster risk reduction activities and programmes. This leads to competition, rather than cooperation. Despite the challenges for integration, many participants agreed that there remains a broad scope and a real need for more and better cooperation and integration across these disciplines to achieve positive and long-lasting outcomes. Participants agreed that **integrated approaches to climate change, humanitarian disasters and poverty reduction must move beyond definitions of potential synergies, toward defining realistic divisions of roles, responsibilities and funding.**

A third insight from the workshop concerns the importance of considering human security in efforts to minimise the effects of climate change and the incidence of poverty and humanitarian disasters. Participants acknowledged that vulnerability to both climate change and natural hazards is increasing in many parts of the globe due to a range of social, economic and environmental changes, including rising poverty, increased urbanization, loss of agricultural incomes, spread of infectious diseases including HIV/AIDS, and violent conflict. Climate change presents new challenges to how disasters are managed, and particularly to how vulnerability is reduced and in the long term. Therefore, **reducing the vulnerability of human populations to climate change and humanitarian disasters is a key to achieving successful adaptation to climate change as well as improvements in human security and human development.**

2 Contents

1	Executive Summary	5
2	Contents	7
3	Workshop Summary	9
3.1	<i>Opening Session</i>	9
3.1.1	Welcoming comments from Erik Solheim, Minister of International Development	9
3.1.2	Karen O'Brien, University of Oslo, Norway: <i>What can we expect? Recent findings from the IPCC Fourth Assessment Report</i>	10
3.1.3	Mark Pelling, Kings College London, UK: <i>Human Security: A meta-framework for bridging disaster risk reduction, humanitarian assistance and development</i>	10
3.1.4	Sumaya Ahmed Zaki Eldeen, University of Khartoum, Sudan: <i>The need for improved policy process integration to support climate change adaptation in Africa</i>	11
3.1.5	Discussion	11
3.2	<i>First Session: Contexts in which disaster occur</i>	12
3.2.1	Ian Christophos, Swedish University of Agricultural Sciences, Sweden: <i>Climate change and the complexity of emergency response</i>	12
3.2.2	Lisa Schipper, START, the global change SysTEM for Analysis, Research and Training, Thailand: <i>Development in a Changing World: Challenges for integrating disaster risk reduction into development planning</i>	12
3.2.3	Mihir R. Bhatt, All India Disaster Mitigation Institute, India: <i>Good Practice in Local Approaches to Climate Change Adaptation and Disaster Risk Management in South Asia: Lessons from Tsunami Evaluation Coalition</i>	13
3.2.4	Discussion	13
3.3	<i>Second Session: Challenges and opportunities for addressing climate change</i>	14
3.3.1	Joanne Linnerooth-Bayer, International Institute for Applied Systems Analysis, Austria: <i>Insurance for reducing vulnerability to climate-related disasters</i>	14
3.3.2	Madeleen Helmer, Red Cross/Red Crescent Centre on Climate change and Disaster Preparedness, the Netherlands: <i>Mainstreaming climate change into humanitarian disaster management: overcoming institutional barriers</i>	14
3.3.3	Siri Eriksen, University of Oslo, Norway: <i>Sustainable adaptation and official development assistance</i>	15
3.3.4	Discussion	15
3.4	<i>Panel Discussion on integrating development and climate policies</i>	17
3.5	<i>Discussion – Concluding comments from participants</i>	18
3.6	<i>Concluding remarks: Practical implications for Norwegian development policy, humanitarian aid, and research. Gunnar Eskeland, CICERO</i>	19
4	Appendices	21
4.1	<i>Appendix A. Workshop agenda</i>	21
4.2	<i>Appendix B. Speaker Biographies</i>	23
4.3	<i>Appendix C. List of Workshop Participants</i>	27

3 Workshop Summary

- Click the following link to view the PowerPoint presentations from the workshop:
<http://www.gechs.org/2007/04/02/disasters-climatechange/>
- To view the opening addresses at the workshop, including welcoming comments from the Norwegian Minister of International Development, click:
<http://www.cicero.uio.no/webnews.asp?id=10798&lang=en>

3.1 **Opening Session 09:00 – 10:30. Chaired by Lynn Rosentrater, GECHS**

3.1.1 **Welcoming comments from Erik Solheim, Minister of International Development, Government of Norway**

View the Minister's welcoming address:

<http://www.cicero.uio.no/webnews.asp?id=10798&lang=en>

In his welcoming address, the Minister noted that the topic of climate change is appropriately receiving much attention, and that the workshop is thus very timely and important. He noted that Norway cannot afford to pursue a narrow technological approach to climate change and development, and suggested that it is important to take a broad approach that considers the North and the South, as well as the political, biological, social and economical perspectives, of climate change. Norway aspires to be at the forefront when it comes to dealing with climate change vulnerability and adaptation. The Norwegian state works closely with civil society, scientists and the private sector to achieve this goal.

The main challenges highlighted by the Minister with respect to climate change are those that concern 1) reducing emissions, and 2) adapting to expected changes. Regarding the former challenge, support for the use of renewable energies, and assisting developing countries to develop renewable energy sources, are important. He called for greater energy efficiency at the national level – pointing to Japan as a role model for Norway. Lastly he noted the importance of investing in CO₂ emissions capture and storage technologies. With respect to adaptation, the Minister highlighted the need to preserve land and livelihoods and improve conservation farming globally. He noted that while it is important to establish the scientific basis for acting on climate change, we must not wait to act upon what we already know. One area where we lack sufficient knowledge is in understanding the effects of climate change on the local level in poor parts of the world. Policy and research must be better linked in this regard. The political process in developing countries must be improved. Governments in developed countries cannot solve problems on behalf of developing countries, but must be in dialogue with bi- and multi-lateral partners. Africa, in particular, must strengthen its governance systems. It is important to remember that climate change is related to national problems, and that the North has responsibility to assist the South in their adaptation. Finally, adaptation to climate change must include civil society, businesses as well as international groups.

3.1.2 Karen O'Brien, University of Oslo, Norway: *What can we expect? Recent findings from the IPCC Fourth Assessment Report*

View her presentation: <http://www.cicero.uio.no/webnews.asp?id=10798&lang=en>

In her keynote presentation, Dr. Karen O'Brien highlighted that vulnerability to climate change is linked to factors that may not be directly related to climate change, factors such as HIV/AIDS, civil war and social unrest. She emphasised that it is important to understand climate change and its impacts holistically. She reminded the audience that climate change is about more than changes in temperature and precipitation, noting that it involves and impacts people. She noted that climate change is taking place today and that adaptation must take place within and across societies. She reminded us that natural disasters are not natural, having their basis in unequal vulnerabilities to extreme weather events. Emphasising that development must be linked to climate change policy; she noted that only dynamic social processes can lead to human development. According to Dr. O'Brien, the IPCC 4th Assessment Report is lacking in that it fails to address the concept of human security both from an individual and a community perspective. Human security is nonetheless associated with climate change outcomes and has direct relevance to equity issues that go beyond the North- South divide and include such aspects as class and gender.

3.1.3 Mark Pelling, Kings College London, UK: *Human Security: A meta-framework for bridging disaster risk reduction, humanitarian assistance and development*

View his presentation: <http://www.gechs.org/downloads/disasters-climatechange/Pelling.pdf>

Abstract: On the 17th of April, 2007 the UN Security Council held a thematic debate on climate change. Some 52 countries spoke. Chairing the debate, Margaret Beckett argued that "Climate change is a security issue, but it is not a matter of narrow national security - it has a new dimension. This is about our collective security in a fragile and increasingly interdependent world." Mounting evidence – as well as future predictions – of the impacts of climate change for human well-being point to fundamental disruptions in ecological, economic and demographic patterns and processes that will destabilise social and political life. This is likely to be felt through increased severity and frequency of hydro meteorological hazards but also through changes in the distribution and nature of vulnerability and coping capacity. Adjustments to human systems under stress will transmit local consequences through trade, migration and conflict. Recent debates on Human Security, many associated with the work of GECHS, provide a lens through which we can view the interactions of climate change, disaster management and development. This presentation provides an overview of debates on Human Security with particular reference to the UN and then examines climate change and disaster risk management as questions of human security.

During his presentation, Dr. Pelling emphasised that there are limits to adaptation because adaptation is a product of history, policy, strategy and culture. He noted that disasters occur where there are weak societies. Because the concepts of justice and unjust distribution are linked to adaptation, he emphasised that adaptation is political at heart.

3.1.4 Sumaya Ahmed Zaki Eldeen, University of Khartoum, Sudan: *The need for improved policy process integration to support climate change adaptation in Africa*

View her presentation:

<http://www.gechs.org/downloads/disasters-climatechange/ZakiEldeen.pdf>

Abstract: Global warming is already affecting Africa. The Intergovernmental Panel on Climate Change (IPCC) describes Africa, the world's poorest region, as "the continent most vulnerable to the impacts of projected change because widespread poverty limits adaptation capabilities" (IPCC, TAR). Climate change will have both a *direct* impact on development of climate-dependent activities (such as infrastructure and agriculture) and *indirect* consequences for social systems (such as issues of poverty, conflict, health and education). As a result, climate change has the potential to undermine, and even undo, socio-economic development in many of the African countries. Despite the inherent link between climate change and development, climate change continues to be unrecognized in many African countries. The impacts of climate change are not just of environmental concern, as they will hamper efforts to tackle poverty and promote national development. Climate risks could seriously obstruct the global efforts and threaten the sustainability of Millennium Development Goals (MDGs). Current and potential climate risks to developmental projects in Africa (Ethiopia) were found to represent a significant threats to poverty reduction efforts, for many projects the risks are already presents or likely to occur in the near term. Mainstreaming adaptation into development process in Africa is essential because of the urgency of the problem, lack of definitive commitment to climate change adaptation in Africa and because of difficulty of establishing a new stand-alone strategy for adaptation. This paper focuses on some of the available opportunities which are represented in the presence of many directly or indirectly related plans, policies and strategies (such as National sustainable development strategies, Poverty Reduction Strategy (PRS), Biodiversity Strategy & Action Plan (BSAP), climate-related plans (NAPA, NC), disaster prevention, sectoral policies and plans (agriculture, water management, etc). The measures and activities of these plans and policies illustrate the clear link with climate risk management, disaster prevention and management policies that could be strengthened for proper integration.

Dr. Zaki Eldeen emphasised during her presentation that what is going on in Africa today is not *adaptation*, per se, but mere *adjusting*. She highlighted that climate risks threaten poverty reduction efforts across the continent.

3.1.5 Discussion

During the discussion, Dr. Pelling was asked to explain in more detail the concept of human security, and in particular whether human security is a new conceptual framework, or whether it falls under common approaches for mainstreaming climate change? He noted in reply that human security is merely a different lens for understanding the consequences of climate change in particular societies. He explained that human security is a discourse in itself, one that creates bridges between sectors while retaining a focus on institutional contexts. People who work with human security want to connect politics to climate change adaptation and vulnerability. Work within this field is often concerned with participation and equitable distribution of resources among all members of society. Understanding the root characteristics of particular societies, including the causes and consequences of poverty and inequality, is an important aspect of human security studies. Much like studies of climate change vulnerability

and adaptation, and international development, human security is concerned with interconnectivity and with placing specific outcomes in the context of the broad historical, political, environmental and institutional changes within which they occur. Although climate change is a relatively new concept within the human security field, the study of human security, like that of climate change, touches on many aspects of society and is not limited to a particular place or context. Both human security, and climate change, are political. We see that in many Least Developed Countries (LDCs) climate change has become a security factor. Assisting with adaptation is therefore also political.

Responding to a question on where the African Union (AU) stands with regard to insecurity and climate change, and what actions it has taken in response, Sumaya Ahmed Zaki Eldeen answered that she was not sure what actions the AU have taken, but she assumes that very little has been done. She noted that climate change is a new political issue on the agenda in Africa, where there are already so many other pressing issues. But climate change is absolutely a potential theme for the AU, she replied.

3.2 First Session: Contexts in which disaster occur (10:45 – 12:15). *Chair: Jennifer West, CICERO*

3.2.1 Ian Christoplos, Swedish University of Agricultural Sciences, Sweden: *Climate change and the complexity of emergency response*

View his presentation:

<http://www.gechs.org/downloads/disasters-climatechange/Christoplos.pdf>

Abstract: The causes and effects of climate change have rarely been addressed in a concerted manner within response to natural disasters, conflicts or emergencies resulting from combinations of these factors. This stems partly from gaps between approaches and mandates of humanitarian, development and risk reduction actors, and also from the difficulties in communicating the multiple causes and complex solutions that are required to introduce climate change perspectives. The tendency has instead often been to grasp at simplistic solutions, even if these have been shown to fail in the past. This is particularly evident with regard to reaching the poorest and most vulnerable sectors of rural populations. There are intriguing discussions underway of combining economic growth and social protection as a way of addressing these gaps, but more work is needed to determine what this may entail.

3.2.2 Lisa Schipper, START, the global change SysTem for Analysis, Research and Training, Thailand: *Development in a Changing World: Challenges for integrating disaster risk reduction into development planning*

View her presentation:

<http://www.gechs.org/downloads/disasters-climatechange/Schipper.pdf>

Abstract: It is no surprise that disasters are of such concern to anyone working with development – disasters roll back progress by years, sometimes even by decades. Disasters are defined by loss of lives and destruction of infrastructure and resources that support livelihoods, including roads, buildings, telecommunications, as well as ecosystems. It is however a surprise that development efforts have scarcely included any mechanisms for reducing the risk posed by extreme hazard events in sensitive areas. Even worse, some development activities can actually increase exposure to disaster risk. Environmental

degradation – often a consequence of economic growth in early stages – is a key driver of disaster risk. With global environmental change – especially climate change – now considered to be a major threat to human security globally, there is currently widespread interest in incorporating disaster risk reduction strategies into development planning, and especially into efforts to address the Millennium Development Goals, which are the main focus of international development efforts today. But this is easier said than done – there are numerous challenges that stand in the way. There are numerous ways to approach this integration, and no common strategy has yet been identified that is effective and sustainable. To effectively ensure that the risk from disasters is reduced, the main emphasis of any activity should be on reducing those driving forces that are the source of the vulnerability to hazards, such as inequality, physical marginalisation of settlements, and poverty. But these are issues that are difficult to address already. This paper discusses these challenges and examines the key questions that need to be addressed in order to enhance our knowledge on how to approach integration of disaster risk reduction into development in the most effective and sustainable way.

3.2.3 Mihir R. Bhatt, All India Disaster Mitigation Institute, India: *Good Practice in Local Approaches to Climate Change Adaptation and Disaster Risk Management in South Asia: Lessons from Tsunami Evaluation Coalition*

Abstract: This good practice summary brings out lessons and recommendations from the recent and comprehensive reviews of the Tsunami Evaluation Coalition (TEC). The intention is to share examples of effective action already taken towards climate change adaptation that comply with the high standards set from TEC's review efforts. In terms of disaster risk reduction, climate change has three important aspects: rising global temperature, the possible increase or intensification of natural hazards, and the increase in the human vulnerability of communities and individuals. Increased frequency and irregularity of droughts and floods in Asia are an example of challenges arising. Risk reduction efforts can focus on any of these three areas. If climate risk management wants to leap forward instead of merely moving ahead, it must learn lessons from disaster risk management experience. There is no experience more recent and comprehensive than the TEC. The TEC recommends that the humanitarian system reorient its focus from providing relief to supporting communities in their own recovery. A similar reorientation is necessary for effective risk reduction. The examples provided in this paper are of actions taken to help communities in Asia increase their abilities to be prepared and to cope with future hazards. They are shared here to encourage their replication and improvement. Is it too much to hope that Norway will take the global lead in supporting similar locally-owned practice?

3.2.4 Discussion

Some questions raised during the discussions from the first session included:

- How to establish links between the local and global agencies in disaster management, and how to rehabilitate village populations following disasters?
- The contributors were asked to elaborate upon the link between climate risk and disaster risk reduction.

In replying to the first question, Dr. Ian Christoplos noted that the information flow between agencies and beneficiaries during and after emergencies is still very poor. The focus in the Tsunami Evaluation Coalition (TEC) was the international response, but the report shows that communication between local communities and the TEC is very important and has a major impact on the result of the emergency response. The information flow between affected

communities and the implementing agencies and international communities must be improved. The effectiveness of South-South information flow is related to the specific people involved and whether they are part of a network as well as how they use that/those network(s), and what kind of incentives they have/don't have to do so. Trust must often be rebuilt following an emergency response related to climate change. There are today many incentives for learning, based in recent studies of aid structures and aid effectiveness.

Dr. Lisa Schipper explained that in her study, meetings and a video-project were part of their approach to adaptation. Local communities shared experiences through different means of communication and thus improved their information flow and learning. She reminded us that during an emergency there is no time for negotiation, and saving lives had to come first. She recommended a book called "Rising from the Ashes" that demonstrate sustainable responses to emergencies.

Dr. Mihir R. Bhatt described the lack of information flow he has seen through his own work. His institute is trying a new approach using the local media, but they are still trying to find how the communication on local and national/international levels can be improved. What is being done (and how well) and what the guidelines are for this matter were two of his main concerns. Speakers agreed that the link between climate risk and disaster risk reduction is not adequately addressed.

3.3 Second Session: Challenges and opportunities for addressing climate change. Chair: Lars Otto Næss, CICERO

3.3.1 Joanne Linnerooth-Bayer, International Institute for Applied Systems Analysis, Austria: Insurance for reducing vulnerability to climate-related disasters

View her presentation: <http://www.gechs.org/downloads/disasters-climatechange/Bayer.pdf>

Abstract: As a possible post-Kyoto strategy for making use of insurance instruments to support climate change adaptation (and meet the intent of Article 4.8 of the UNFCCC), this presentation suggests the creation of a climate insurance facility specialized in supporting developing country insurance-related initiatives. It would offer capacity building and financial support to nascent (climate-related) disaster insurance systems in highly exposed developing countries. Examples include support to the Malawi groundnut insurance initiative, as well as to sovereign insurance instruments, such as Mexico's recent catastrophe bond. The facility could stand alone or leverage its support by partnering with other donor initiatives. In this way, development agencies and other donors can reorient from reactive disaster assistance to proactive risk prevention and transfer.

3.3.2 Madeleen Helmer, Red Cross/Red Crescent Centre on Climate change and Disaster Preparedness, the Netherlands: Mainstreaming climate change into humanitarian disaster management: overcoming institutional barriers

View her presentation: <http://www.gechs.org/downloads/disasters-climatechange/Helmer.pdf>

Abstract: The Red Cross Red Crescent Movement is since 8 years addressing the risks of climate change to vulnerable people, in particular in the context of disaster management.

Since 2002 programs have been developed in a number of developing countries focusing at community level and national capacity building. In the presentation these experiences will be shared, along with some observations regarding institutional barriers around climate change policy and program development. Moving these barriers will be very important to make progress in giving sufficient priority to the risks of climate change within sectors and countries that are almost not engaged at the moment. Current barriers are:

1. The general projections of climate change and the mismatch of these projections (decades) with policy development and planning circles (years).
2. The dominant focus on greenhouse gas emission reduction in climate change policies and measures leading to a disconnect with adaptation and risk reduction strategies.
3. Lack of human and financial resources to mainstream climate change risks in development and disasters risk reduction planning.

During her presentation, Ms. Helmer noted that climate change is an issue that the scientific community has difficulty communicating to a wider community. She suggested that it is not the IPCC, but rather the observed weather that helps create a public momentum, and wondered whether extreme events are a necessary key for communicating the urgency of climate change to the general public.

3.3.3 Siri Eriksen, University of Oslo, Norway: *Sustainable adaptation and official development assistance*

View her presentation: <http://www.gechs.org/downloads/disasters-climatechange/Eriksen.pdf>

Abstract: There is growing interest in integrating climate change adaptation measures into official development assistance. Efforts so far have focused on managing climate risk, such as early warning and evacuation procedures for flood situations. There is also increasing attention being paid to the need to strengthen the existing adaptation strategies that rural populations use to manage climatic events. This paper argues that in order to address poverty reduction and vulnerability to climate change, the specific societal factors and conditions that make poor people vulnerable must also be addressed. Sustainable adaptation involves measures that specifically target the interface between poverty and vulnerability, that is, climate risk, adaptive capacity of the poor, and causes of vulnerability. This implies a shift from reacting to a physical threat in the short term towards addressing longer term social factors that cause vulnerability, for example by improving health infrastructure and capacity to deal with climate related diseases and target exclusion of poor groups from key adaptation resources including drought grazing areas and forest products. Adaptation efforts that do not take such issues into account can actually serve to exacerbate the vulnerability of poor population groups to climate change.

3.3.4 Discussion

During the discussion, several participants requested clarification on the issues of disaster risk insurance and risk transfers, for example: at which level does the facility that IASSA has designed operate? Is it a global, or a regional facility?; What role or stance should large networks such as Red Cross adopt with respect to the issue of risk transfers?; and, regarding the example of insurance for farmers in Malawi: did the insurance operate on a regional scale? Did the recipients also contribute? Do they have the reserves to do so? Who is contributing to such assistance?

Dr. Joanne Linnerooth-Bayer replied that she understands that insurance is not the first option that comes to peoples' minds when they think of disasters. She noted the fact that there are, however, examples of saving schemes for disasters around the world, for instance in Nepal. She believes that the profile of disaster insurance needs to be raised and a general awareness that it is possible fostered. She noted that a global disaster insurance facility would also benefit poor people. The role of donors within such a facility would be important as they would have the power to design it and create access to funding. In creating this facility, interactions with the outside world, for example transparent links to the media, would be important. Donors can contribute to building welfare systems. But many resources and engagement with multiple donors and stakeholders over time are required. The World Bank would not be enough on its own. She raised the issue of solidarity as a risk insurance concept. How can we ensure solidarity? In any risk transfer system there will be winners and losers, and questions of who benefits, and what to prioritise. These are ethical and value judgements. She pointed out that there seems to be an assumption within the climate change field that adaptation is value neutral, but noted that this is not the case. Values and ethics come to the forefront also when it comes to the question of a global insurance facility, as a tool for adapting to climate risks. The concepts behind such a facility are solidarity and reciprocity. She wondered whether it would be possible to globalise the idea of social insurance that we now enjoy in Europe?

A second set of questions centred on the presentation by Dr. Siri Eriksen, on drought and violent conflict in Northern and Eastern Kenya. One participant asked whether the case Siri described could be considered a success given that the traditional herders were encroaching on agricultural land. Would this not lead to more conflict? Dr. Ian Christoplos noted that the policy approaches Siri suggested (access to common grazing lands, flexible herding structures) are similar to rangeland policies attempted in the late 1980s, which subsequently failed. He wondered how to convince the ODA decision-makers that such an approach would work this time?

Dr. Eriksen answered that in the example of nomadic herders and settled farmers, the nomadic herders had land and benefited the agriculturalists through trade in exchange for water. In answering the second question, she noted that the fact that policies for settling nomadic herding peoples have failed in the eyes of governments and international donors does not reflect the fact that herders cannot adapt, but rather that rigid policies are perhaps not suited to supporting nomadic ways of life, which are based on mobility and flexibility.

Several other issues were raised by members of the audience and the speakers, including:

- That governments should support pro-active assistance and improved capacity building to prevent humanitarian disasters
- The need to acknowledge issues of territoriality and competition for funding among traditionally distinct fields
- The importance of communicating across fields and learning from experiences
- The need to acknowledge the diversity of agendas and discourses
- The fact that vulnerable people are not well represented and not on the political agenda
- The need to devise clear roles and common responsibilities among the different fields.

3.4 Panel Discussion on integrating development and climate policies. Chair: Mark Pelling, King's College London

Panellists: Mihir Bhatt (AIDMI), Sumaya Ahmed Zaki Eldeen (University of Khartoum), Lars Otto Næss (CICERO), Knut Christiansen (Norwegian Church Aid)

Dr. Mihir R. Bhatt provided an overview of issues raised in the day's presentations and talked about the need for a broad and integrated approach to disaster risk management. He noted that the climate is a social good and that we need global welfare for the global good, emphasising that we must focus more on the poor in our risk reduction efforts. We must critically consider whether we are using the climate in the name of the poor to improve our own lives. We need strong local communities, and more and better outreach and communication. He is concerned about Africa and adaptation.

Dr. Sumaya Ahmed Zaki Eldeen concluded that developing countries have a good understanding of the need for mainstreaming adaptation, but lack the resources to implement mainstreaming activities. The UNFCCC adaptation fund does not provide enough funding for adaptation. She noted that the estimated costs of adaptation for LDCs are provided in their National Adaptation Programmes of Action (NAPA), and that the estimated cost of adaptation for African countries far exceeds the funding presently available. She emphasised the urgent need for African national plans and ministries to mainstream adaptation to climate change and noted that the issue of environment is new in Africa and that there are barriers to focusing on climate change risks, including a lack of money, technology and other resources, as well as widespread poverty and development issues. She highlighted that climate change mitigation and renewable energy technology is needed in Africa, and that market mechanisms for reducing emissions exclude African countries, noting that Africa has attracted few CDM projects until now. She emphasised that African NGOs require more support and that they can work effectively on the local level.

Mr. Knut Christiansen noted that climate change is an urgent issue for humanitarian practitioners. He sees an effective strategy for dealing with climate change challenges and their long-term effects as one that places climate change questions within development and humanitarian work. This, he believes, is the only way to gain legitimacy and integrity. He pointed out that climate change presents a communication challenge involving the general public and raised a question about the amount of knowledge people have and need to have, to act. The urgency of climate change represents a challenge to the humanitarian community and all communities, but it also represents hope. The risk with a general and pervasive problem such as climate change is that it can take people from ignorance straight to fatigue, immobilising them. To prevent fatigue, the message has to be balanced. We need to maintain a sense of hope in what we are doing and communicating. Norwegian politicians see climate change as an opportunity for us to maintain our privileged role in the world while at the same time lifting people out of poverty in developing countries. Minister Solheim distinguished between mitigation and adaptation efforts, but we are short on good examples of adaptation, and this is a challenge. The moral dimensions of climate change must be addressed, and we must monitor our own practice to avoid double standards. An integrated approach to the climate change question offers an opportunity for us to secure people and make them safe. Through this perspective we can revive solidarity, change practice and share responsibilities. We must contribute to raising the voices of poor people as right-holders in this debate.

Mr. Lars Otto Næss reflected on what he has learned from the day's discussions. He noted that the talks and discussions during the seminar have proven two key points. The first point is that there is much common ground, interest and room for action across the areas of climate change, disasters and development. There is increasing awareness within all groups that a growing disaster aid budget and climate change will undermine future development. This raises questions of responsibility and morality. The second issue around which there seems to be consensus is that practical and institutional experiences on common approaches exist already. Many are working on these issues but not calling it climate change. He underscored that historically adaptation has often taken place at the local level. We need to ask ourselves what is new about climate change, and how we can change practices, acknowledging that there are new risks, a changing magnitude of impacts, and changing social dimensions. Specific challenges for researchers include the need to contribute to more and better scientific data about the risks posed by climate change. In this respect the availability of and access to climate data must be insured for all. There is a danger with the increasing privatisation of data that timely information on climate change will not be accessible to those who most need it.

He reiterated that researchers need to improve the ways in which they communicate the science of climate change, and emphasised that more research on adaptation practices and local adaptive capacity are needed. In conclusion, he notes that we need to improve our practices, better understand the physical risks, take into account new risks, and acknowledge the social dimension of climate change that makes certain individuals, groups and societies more vulnerable than others.

3.5 Discussion – Concluding comments from participants

Questions

- This day has shown that we are trying to integrate very disparate realms. But similar agendas, such as efforts undertaken during the UN water decade, failed. How and where can we start to avoid losing the core of the discussion?
- Mitigation options and technology for reducing emissions are available. Win-win solutions are possible. We need to try and look into both aspects of climate change – adaptation and mitigation, and integrate them.
- How can we mainstream and integrate risk reduction measures into our planning processes? We must operate at two levels simultaneously: first at the policy level (focusing on what and why, on the incentives and on how to convince actors), and second at the practical institutional levels, focusing on the implications of policy for governments, communities and practitioners. We must provide people with linkages and entry points in their own work for addressing climate change and disaster risks.
- Today's discussions have touched on human rights with respect to climate change, disasters and development, but perhaps these discussions impose a Western understanding of human rights?

Responses from the panel

- Risk reduction can take place with money, funds and new donors.
- International policies are pushing governments with respect to human rights and helping NGOs. Things are moving forward in this respect
- 'There is never enough rain where there is bad governance' – a comment in response to the need articulated for more funding for mainstreaming climate change adaptation in developing countries.
- We need to become better at learning from our mistakes by for instance taking into account lessons learned from the 'water decade'. We don't need to repeat these same mistakes.

- When it comes to mitigation, technology is important, but successful adaptation requires learning from local experiences. Adaptation is not only a question of technology transfer.

3.6 Concluding remarks: Practical implications for Norwegian development policy, humanitarian aid, and research. Gunnar Eskeland, CICERO

Dr. Gunnar Eskeland began his concluding remarks by noting that the workshop had provided participants with new perspectives on the North-South divide. He explained that in many respects climate change adds to the historical sense of guilt and feeling of responsibility in Northern countries for underdevelopment in the South, and that it is a part of the global development challenge in the post-war period. He noted that past poverty reduction efforts have been disappointing and that we need and welcome new efforts to overcome past and continuing problems. He emphasised that poverty is a risk and risk is poverty and noted that development and adaptation are not separate entities. By ameliorating risk conditions, we can assist development and reach the poorest through development work. We have learned not to be arrogant and that to meet the challenges of climate change we must avoid a top-down approach. Climate change is as little as in any other field a question of flying in to equip people, and we know from past experiences that this approach will fail. Local knowledge, local institutions, local experiences and empowerment are today central concepts of development. We are likely to fall into a trap if we think that computers in the north will tell us what it is all about and what we should do. We must remind ourselves of the importance of local knowledge. He urged participants to ensure that they understand the barriers to development at the local level, and assist in helping to remove these barriers.

4 Appendices

4.1 Appendix A. Workshop agenda

8:30 - 9:00 Registration

Opening session (chair: Lynn Rosentrater, GECHS)

9:00 - 9:15 Welcoming comments from Erik Solheim, Minister of International Development, Norway

9:15 - 9:30 Karen O'Brien, University of Oslo, Norway

What can we expect? Recent findings from the IPCC Fourth Assessment Report

9:30 - 9:50 Keynote address by Mark Pelling, Kings College London, UK
Human Security: A meta-framework for bridging disaster risk reduction, humanitarian assistance and development

9:50 - 10:10 Keynote address by Sumaya Ahmed Zaki Eldeen, University of Khartoum, Sudan
The need for improved policy process integration to support climate change adaptation in Africa

10:10 - 10:30 Discussion

10:30 - 10:45 Break

Session 1: Contexts in which disasters occur (chair: Jennifer J. West, CICERO)

10:45 - 11:05 Ian Christoplos, Swedish University of Agricultural Sciences, Sweden
Climate change and the complexity of emergency response

11:05 - 11:25 Lisa Schipper, START, the global change SysTem for Analysis, Research and Training, Thailand
Development in a Changing World: Challenges for integrating disaster risk reduction into development planning

11:25 - 11:45 Mihir R. Bhatt, All India Disaster Mitigation Institute, Gujarat, India
Good Practice in Local Approaches to Climate Change Adaptation and Disaster Risk Management in South Asia: Lessons from Tsunami Evaluation Coalition

11:45 - 12:15 Discussion

12:15 - 13:15 Lunch

Session 2: Challenges and opportunities for addressing climate change (chair: Lars Otto Næss, CICERO)

13:15 - 13:35 Joanne Linnerooth-Bayer, International Institute for Applied Systems Analysis, Austria

Insurance for reducing vulnerability to climate-related disasters
13:35 - 13:55 Madeleen Helmer, Red Cross/Red Crescent Centre on Climate change and Disaster Preparedness, the Netherlands
Mainstreaming climate change into humanitarian disaster management: overcoming institutional barriers

13:55 - 14:15 Siri Eriksen, University of Oslo, Norway
Sustainable adaptation and official development assistance

14:15 - 14:30 Discussion

14:30 - 14:45 Break

Session 3: Panel discussion on integrating development and climate policies (chair: Mark Pelling, Kings College London)

14:45 - 14:55 Panelist: Mihir R. Bhatt, All India Disaster Mitigation Institute

14:55 - 15:05 Panelist: Sumaya Ahmed Zaki Eldeen, University of Khartoum

15:05 - 15:15 Panelist: Knut Christiansen, Norwegian Church Aid

15:15 - 15:25 Panelist: Lars Otto Næss, CICERO

15:25 - 15:45 Discussion

15:45 - 16:00 Gunnar Eskeland, CICERO

Concluding remarks: practical implications for Norwegian development policy, humanitarian aid, and research

4.2 Appendix B. Speaker Biographies

Sumaya Ahmed Zaki Eldeen, University of Khartoum, Sudan

The need for improved policy process integration to support climate change adaptation in Africa

Sumaya Zaki Eldeen holds a PhD degree in plants Eco-physiology and has research experience on climate change, genetic resources and remote sensing. She is an Assistant Professor at the Institute of Environmental Studies, University of Khartoum and an Executive Committee Member of the Sudanese Environment Conservation Society (SECS). She has also been a member of the Sudanese Government Delegation at several United Nations Climate Change Conferences and has been very involved in the NAPA process in Sudan. Sumaya is a member of the CLACC fellowship programme

(www.clacc.net) working to strengthen capacity in Least Developed Countries on Adaptation to Climate Change. She has engaged with professionals from both the development, environment and health sectors to coordinate a study on the impacts of climate change on human health in Sudan and disseminate the findings. Currently working on establishing a coalition of environmental and development practitioners in the region to network and work together on the issues of climate change and development.



Mihir R. Bhatt, All India Disaster Mitigation Institute, Ahmedabad

Good Practice in Local Approaches to Climate Change Adaptation and Disaster Risk Management in South Asia: Lessons from Tsunami Evaluation Coalition

Mihir R. Bhatt studied and practiced architecture and city planning in Ahmedabad and Delhi, India, and later Cambridge and Washington DC, USA. On returning to India in 1989 he initiated a project on disaster risk mitigation which is now the 63 member strong All India Disaster Mitigation Institute (AIDMI) working in 5 states of India and 3 countries in South Asia. Mihir studied at Massachusetts Institute of Technology (MIT), received Russell E. Train Institutional Fellowship from the World Wildlife Fund, USA (1997), Eisenhower Fellowship, USA (2000), and currently Ashoka International Fellowship, USA (2004). He has set up the risk transfer initiative—

including Afat Vimo: a life and non-life disaster insurance and mitigation programme—for the micro-enterprise beneficiaries of Livelihood Relief Fund (LRF) of AIDMI. Recently, he evaluated tsunami recovery for Disaster Emergency Committee, UK; joined Core Management Group of Tsunami Evaluation Coalition, UK as a Member; evaluated Oxfam International response in South India and Sri Lanka; and helped UNDP mainstream Disaster Risk Reduction in Sri Lanka. Currently he is reviewing Asian Development Bank's work on Disaster Risk Reduction in Asia. He is a Senior Fellow at Humanitarian Initiatives at Harvard University, USA. He is a Full Member of ALNAP and a Member of Advisory Committee of ProVention Consortium. Currently he is working on integrating TEC findings in the recovery, upscaling micro-insurance programme, and nourishing risk reduction training and learning in key Asian universities. More information on AIDMI is on website: www.southasiadisasters.net.



Ian Christoplos, Swedish University of Agricultural Sciences, Sweden
Climate change and the complexity of emergency response

Ian Christoplos is a researcher at the Department of Urban and Rural Development at the Swedish University of Agricultural Sciences and an Associate Researcher with the Overseas Development Institute in London. His work focuses on issues related to risk, humanitarian assistance, rural development and agricultural services. His interests focus on policy formation for poverty reduction and supporting the role of local institutions in turbulent contexts. He has worked as a researcher and practitioner in both development cooperation and humanitarian assistance in Africa, Asia, Latin America and the Western Balkans. He is the author of the 2006 Tsunami Evaluation Coalition synthesis review of the *Links Between Relief, Rehabilitation and Development in the Tsunami Response*, co-author of the ODI research report *Agricultural Rehabilitation: Mapping the Linkages Between Humanitarian Relief, Social Protection and Development*, together with Catherine Longley and Tom Slaymaker, and co-editor, together with John Farrington, of *Poverty, Vulnerability, and Agricultural Extension: Policy Reforms in an Era of Globalization*, published by Oxford University Press in 2004.



Siri Eriksen, University of Oslo, Norway
Sustainable adaptation and official development assistance

Siri Eriksen is postdoctoral researcher at the Department of Sociology and Human Geography at University of Oslo. She holds a PhD in Environmental Sciences from University of East Anglia, UK (2000). Her main research interests focus on human vulnerability to environmental change, in particular climatic variability and extremes such as droughts and floods. Current research projects include investigating adaptation to climate change in Norway, the interaction between conflicts and vulnerability to climate stress in Kenya, economic change and coping strategies with climatic variability in Mozambique, and investigating linkages between development, poverty and climate change adaptation. She has previously worked for CICERO Center for International Climate and Environmental Research – Oslo for four years as a senior researcher and is an associate fellow at the Climatic Research Unit, University of East Anglia.



Madeleen Helmer, Red Cross/Red Crescent Centre on Climate change and Disaster Preparedness, the Netherlands

Mainstreaming climate change into humanitarian disaster management: overcoming institutional barriers

In 2001 Madeleen Helmer initiated and developed the business plan for the Red Cross-Red Crescent Centre on Climate Change and Disaster Preparedness with the Netherlands Red Cross.

Since 2004 the RC/RC Climate Centre is a joint initiative of the Netherlands Red Cross and the IFRC. She is now the head of the RC Climate centre. A key objective of the RC/RC Climate centre is to support national RC societies to better understand the risks of climate change and to integrate these risks in their ongoing Disaster Preparedness and Disaster Risk reduction programmes. In 2006 20 National Red Cross and Red Crescent Societies all over the world were engaged in climate change related programs. The RC Climate Centre aims to stimulate dialogues between the climate change scientists, policy-makers and civil society organisations operational in the area of Disaster Risk Reduction. Understanding climate science, but also making scientists aware of the perceptions and priorities of civil society is a constant element in these dialogues. Madeleen Helmer has participated in a number of international scientific fora on issues like health and climate change and extreme weather events and climate change. She represents the IFRC in international meetings like the UNFCCC, and other related fora.



Since 2004 the RC/RC Climate Centre is a joint initiative of the Netherlands Red Cross and the IFRC. She is now the head of the RC Climate centre. A key objective of the RC/RC Climate centre is to support national RC societies to better understand the risks of climate change and to integrate these risks in their ongoing Disaster Preparedness and Disaster Risk reduction programmes. In 2006 20 National Red Cross and Red Crescent Societies all over the world were engaged in climate change related programs. The RC Climate Centre aims to stimulate dialogues between the climate change scientists, policy-makers and civil society organisations operational in the area of Disaster Risk Reduction. Understanding climate science, but also making scientists aware of the perceptions and priorities of civil society is a constant element in these dialogues. Madeleen Helmer has participated in a number of international scientific fora on issues like health and climate change and extreme weather events and climate change. She represents the IFRC in international meetings like the UNFCCC, and other related fora.

Joanne Linnerooth-Bayer, International Institute for Applied Systems Analysis, Austria

Insurance for reducing vulnerability to climate-related disasters

Joanne Linnerooth-Bayer is leader of the Risk and Vulnerability Program at the International Institute for Applied Systems Analysis (IIASA) in Laxenburg, Austria. She is an economist by training, and received a BS and Ph.D. at Carnegie-Mellon University and the University of Maryland, respectively. Her current interest is global change and the risk of catastrophic events, and she is investigating options for improving the financial management of catastrophic risks in transition and developing countries. She and her colleagues have carried out extensive research on this topic and are developing options for the donor communities to support pro-active disaster assistance. She is an associate editor of the *Journal for Risk Research* and on the editorial board of *Risk Analysis* and *Risk Abstracts*. She has received the Distinguished Scientist Award from the European Society for Risk Analysis and the Scientific Excellence Award, from the International Society for Risk Analysis.



Mark Pelling, Kings College London, UK

Human Security: a meta-framework for bridging disaster risk reduction, humanitarian assistance and development

Mark Pelling is Reader in Human Geography, King's College London. His research interests include disaster risk management and adaptation to climate change with specializations in institutional aspects and in urban contexts in poorer countries. He is lead investigator in a project funded by the UK Economic and Social Research Council investigating Human Security and natural disasters. In 2007 he will also begin research on a project examining the negotiation of vulnerability and adaptive capacity to climate change along Mexico's rapidly urbanizing Caribbean



coastline. He is an associate of GECHS and also of UGEC and a member of the UK committee on Human Dimensions of Global Environmental Change. He is chair of the Climate Change Research Group of the Royal Geographical Society. He is author of *The Vulnerability of Cities* (Earthscan) and *Natural Disasters and Development in a Globalizing World* (Routledge).

Lisa Schipper, Southeast Asia START Regional Centre, Thailand

Development in a Changing World: Challenges for integrating disaster risk reduction into development planning

Dr Lisa Schipper (1975), a dual-national (Sweden and US), is a researcher focused on adaptation and reduction of vulnerability to climate change and disaster risk in the context of development. Lisa holds a Ph.D. in Development Studies from the School of Development Studies and the Tyndall Centre for Climate Change Research at University of East Anglia (2004), as well as a BSc in Environmental Sciences from Brown University (1997) and an MSc with distinction in Environment and Development from the School of Development Studies at the UEA (2000). She has consulted for numerous organisations, including the UNFCCC secretariat, IISD, GTZ, DFID, UN/ISDR, UNDP/GEF, UNEP and CIFOR. Lisa spent two years as a post-doctoral fellow at the International Water Management Institute, in Colombo, Sri Lanka. She currently works at the Southeast Asia START regional centre in Bangkok, Thailand, focusing on capacity building for adaptation and vulnerability reduction. Lisa has carried out fieldwork in Botswana, Ethiopia and El Salvador and is currently working in Southeast Asia. Lisa can be reached at lschipper@climate-adaptation.info.



4.3 Appendix C. List of Workshop Participants

Name	Institute	Email
Stine Aakre	CICERO	s.y.aakre@cicero.uio.no
Helene Amundsen	CICERO	helene.amundsen@cicero.uio.no
Michael Angstreich	Bioforsk	michael.angstreich@bioforsk.no
Mihir R. Bhatt	All India Disaster Mitigation Institute	dmi@icenet.co.in
Christopher Brodersen	Norwegian Institute for Agricultural and Environmental Research (Bioforsk)	christopher.brodersen@bioforsk.no
Jon Otto Brødholt	Ministry of Foreign Affairs	jon.brodholt@mfa.no
Ian Christoplos	Swedish University of Agricultural Sciences	ian@glemdev.com
Bed Mani Dahal	Noragric	bedmani.dahal@umb.no
Susan Eckey	Ministry of Foreign Affairs	susan.eckey@mfa.no
Sumaya Ahmed Zaki Eldeen	University of Khartoum, Sudan	zakiels@yahoo.com
Siri Eriksen	University of Oslo	siri.eriksen@sgeo.uio.no
Gunnar Eskeland	CICERO	gunnar.eskeland@cicero.uio.no
Leif John Fosse	Ministry of Environment	ljf@md.dep.no
Gunnar Etterstol		gunnar@ette.no
Christian Frantzen	University of Oslo	chrishf@student.uio.no
Maria Fossheim	Bellona	maria@bellona.no
Ria Garcia	University of Oslo	ria.garcia@netcom.no
Torill Grung		
Bruno Haghebaert	International Federation of Red Cross and Red Crescent Societies	bruno.haghebaert@ifrc.org
Mardon Jule Hansen		mardon.juel@tele2.no
Sigvald Hauge	Ministry of Foreign Affairs	sigvald.tomin.hauge@mfa.no
Camilla Haugsten	Norwegian Red Cross	Camilla.Haugsten@redcross.no
May Britt Håbjørg	Directorate for Cultural Heritage	mbh@ra.no
Madeleen Helmer	IFRC/RCS Netherlands	MHelmer@redcross.nl
Linda Innbjør	Directorate for Civil Protection and Emergency Planning	linda.innbjor@dsb.no
Alhaji Jeng	Bioforsk	alhaji.jeng@bioforsk.no
Line L. Jenssen	University of East Anglia	mbh@ra.no
Bjørn Johannessen	Ministry of Foreign Affairs	bjorn.johannessen@mfa.no
Shefali Juneja	UNDP-BCPR, Geneva	shefali.juneja@undp.org
Bjørn Kalsnes	Norwegian Geotechnical Institute (NGI)	bjorn.kalsnes@ngi.no
Darley Jose Kjosavik	Norwegian Institute for Urban and Regional Research	darley.kjosavik@nibr.no
Snorre Kverndokk	Ragnar Frisch Centre for Economic Research	snorre.kverndokk@frisch.uio.no
Andreas Koestler	Norwegian Red Cross	Andreas.Koestler@redcross.no
Joanne Linnerooth-Bayer	International Institute for Applied Systems Analysis	bayer@iiasa.ac.at

Knut Christiansen	Norwegian Church Aid	kc@nca.no
Kristin Lunden	Norwegian Red Cross	Kristin.Lunden@redcross.no
Zenon Medina-Cetina	Norwegian Geotechnical Institute (NGI)	zmc@ngi.no
Heidi Mestl	CICERO	h.e.s.mestl@cicero.uio.no
Elisabeth Meze	University of Bergen	Elisabeth.Meze@geog.uib.no
Gitte Motzfeldt	The Development Fund	gitte@u-fondet.no
Inger Næss	Ministry of Foreign Affairs	ign@mfa.no
Lars Otto Næss	CICERO	l.o.naess@cicero.uio.no
Farrokh Nadim	International Centre for Geohazards	Farrokh.Nadim@ngi.no
Lauren Naville	Drylands Coordination Group	info@drylands-group.org
Sushila C. Nepali	NORAGRIC	shushila.nepali@umb.no
Elisabeth Nyeggen	University of Bergen	
Karen O'Brien	University of Oslo/ GECHS	karen.obrien@sgeo.uio.no
Geir Inge Orderud	Norwegian Institute for Urban and Regional Research	geir.orderud@nibr.no
Mark Pelling	Kings College London	mark.pelling@kcl.ac.uk
Sarah Prosser	Oslo Dokumentarkino	sarah@prosser.tc
Yang Qiu	FAFO	yaq@fafo.no
Nick Roberts	Norwegian Geotechnical Institute (NGI)	Nick.Roberts@ngi.no
Lynn Rosentrater	GECHS	lynn.rosentrater@sgeo.uio.no
Stine Rybraten	CICERO	stine.rybraten@cicero.uio.no
Anne Ruden	Norwegian Agency for Development Cooperation (NORAD)	Anne.Ruden@norad.no
Lisa Schipper	START	lschipper@climate-adaptation.info
Bal Ram Singh	Norwegian University of Life Sciences	Balram.singh@umb.no
Bishal Sitaula	Noragric	bishal.sitaula@umb.no
Hans Skotte	Norwegian University of Science and Technology (NTNU)	hans.skotte@ntnu.no
Brita Slettemark	Ministry of Environment	
Arvid Solheim	The Development Fund	arvid@u-fondet.no
Erik Solheim	Ministry of Foreign Affairs	utviklingsminister@mfa.no
Synne Solstad	CICERO	s.p.solstad@cicero.uio.no
Henrik Svensen	University of Oslo	henrik.svensen@fys.uio.no
Linda Sygna	CICERO	linda.sygna@cicero.uio.no
Barbro Thomsen	Norwegian Pollution Control Authority (SFT)	barbro.thomsen@sft.no
Karsten Thorsen	Susila Dharma	karstth@online.no
Krishna R Tiwari	Norwegian University of Life Sciences	krishna.tiwari@umb.no
Lise Tønnesland	Ministry of Foreign Affairs	Lise.Tonnesland@mfa.no
Marianne Tønnessen	Vårt Land	mariannet@vl.no
Astrid Tveteraas	Drylands Coordination Group	dcg@drylands-group.org
Kirsten Ulrud	GECHS	kirsten.ulsrud@sgeo.uio.no
Inger-Ann Ulstein	Norwegian Research Council	iau@forskningsradet.no
Marthe Valde		
Vedis Vik	Ministry of Environment	Vedis.Vik@md.dep.no
Jennifer West	CICERO	j.j.west@cicero.uio.no

