Courting catastrophe? Humanitarian policy and practice in a changing climate

A Noragric led collaborative proposal between international practitioner and research institutions

1. Background and status of knowledge

Climate change is likely to result in more extreme events such as droughts, floods and cyclones (Christensen et al., 2007; Shongwe et al. 2011), necessitating humanitarian interventions alongside a host of other actions to prepare populations for disaster, increase their resilience and reduce suffering. Humanitarian interventions will continue to constitute a main response to disasters relating to climate change, and there is growing awareness both among scientific and practitioner communities of the need to relate these distinct fields (O'Brien et al., 2008; Red Cross, 2009; DFID, 2011). Humanitarian responses and climate change adaptation have largely remained separate policy spheres (Agarwal and Perrin, 2009). In order to avoid courting catastrophe by indirectly contributing to the perpetuation of longer term vulnerability processes, new thinking around the links between short-term responses to emergencies defined by acute needs and longer-term transformations inherent in sustainable adaptation is required.

The very definition of humanitarianism - providing emergency assistance to save lives and alleviate suffering during and in the aftermath of emergencies¹ – strikes to the core of efforts to reduce vulnerability in terms of the potential to be adversely affected by climate stressors. However, the focus is largely on short term emergency and distress relief, in particular food aid (Macrae 2002). In contrast, climate change adaptation has a broader and longer term focus. It comprises actions and adjustments to practices and systems to moderate negative consequences and take advantage of any opportunities due to actual or expected climate change (IPCC 2007). Disaster risk reduction – which focuses on preventing disasters and building community resilience by anticipating events and addressing risk factors² - is increasingly seen as a way of bridging this gap³. Yet, shorter term humanitarian interventions in the immediate aftermath of a disaster are important for re-establishing livelihoods, hence having clear implications for efforts over the longer-term to reduce vulnerability and improve resilience.

In recent years, our understanding of the nature of disasters, vulnerability, and what constitutes adaptation has evolved and broadened. A long tradition of literature documents that so called "natural disasters" are in fact created by a range of social processes (Wisner et al, 2004; O'Keefe 1976). The climate change problem has brought new relevance and attention to these insights. In particular, climate change as a driver of emergencies and humanitarian situations unmasks deeply embedded processes and structures that generate vulnerability. The climate change vulnerability literature increasingly understands vulnerability as driven by multiple stressors, that is, people are vulnerable to climate change due to a range of other environmental and social changes facing them

¹ Humanitarian aid is assistance designed to save lives, alleviate suffering and maintain and protect human dignity during and in the aftermath of emergencies (...) it includes disaster prevention and preparedness; the provision of shelter, food, water and sanitation, health services and other items of assistance for the benefit of affected people and to facilitate the return to normal lives and livelihoods; measures to promote and protect the safety, welfare and dignity of civilians and those no longer taking part in hostilities and rehabilitation, reconstruction and transition assistance while the emergency situation persists." (Source: OECD;

 $http://www.oecd.org/document/19/0,3746, en_{21571361_39494699_39503763_1_1_1_0.0.html)$

² Disaster risk reduction is defined as "the conceptual framework of elements considered with the possibilities to minimize vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development."

³ As evident by the fortcoming Intergovernmental Panel on Climate Change (IPCC), Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation

at the same time (O'Brien and Leichenko, 2000; Reid and Vogel, 2006). Vulnerability is seen as the contextual conditions of social and ecological systems that contribute to negative outcomes from interacting changes (O'Brien et al. 2007). In addition to climate-related practices and adjustments and policy interventions, adaptation is also viewed as the daily decisions and social relations through which individuals strive to secure a decent life in changing social and environmental contexts, whether or not the climate change contribution to these changing contexts can be distinguished (Adger, 2003; Eriksen et al., 2005; Osbahr et al., 2010). There is greater understanding that in addition to adjusting to particular climate changes, there must be concurrent efforts to reduce vulnerability, which often entail addressing deeply embedded social differences, or political and economic conditions that favour elites (Eriksen and Lind, 2009). This implies that providing relief to those affected by climatic events does not address the root causes of vulnerability since it may not directly address why people are unable to cope nor the social and environmental processes and structures creating their vulnerability (Chambers, 1989; Eriksen and Silva, 2008). Although humanitarian assistance is not necessarily designed to address longer-term vulnerability, it is crucial to address the potential synergies between immediate actions to reduce human suffering in disasters and the longer-term actions that are required to reduce vulnerability and prevent crises from recurring. There is a danger in humanitarian actors being left to pick up the pieces of development failures that have generated vulnerability, but this need not be the case.

These insights raise the challenge of both linking short term measures with longer term building of resilience and also making sure that longer term humanitarian measures successfully addressing the causes of vulnerability. As agencies and governments shape their humanitarian policies, there is an urgent need to identify the potentials and limits for different types of humanitarian interventions to address these two challenges. In particular, there is an urgent need for evidence-based interventions on which agencies and governments can shape their humanitarian policies, operations and decision-making.

For example, the newly released UK Humanitarian Emergency Response Review recognises the changing nature of disaster risk as a result of climate change and that '…merely improving upon what we have done in the past – enhancing the status quo – will not be sufficient' (foreword, DFID, 2011). Instead, creation of resilience is important, in terms of being prepared for disasters, and having good systems for responding to them'. Linking external measures directed at physical infrastructural and capacity related dimensions of resilience, with local knowledge and strategies embedded in development realities on the ground remains a challenge, however. How building local resilience relates to reducing the root causes of vulnerability is also not well understood⁴.

These challenges raise a number of practical, institutional and political issues. The first is how to understand and address multiple stressors and drivers of vulnerability in interventions. Multiple stressors that drive the vulnerability context often lead to unexpected and unintended consequences of development interventions (O'Brien et al. 2009). Conflicts, political and economic change, migration and droughts may interact in mutually reinforcing ways, for example (O'Brien and Lechenko, 2000; Kolmannskog, 2008; Eriksen and Lind, 2009; Eriksen and Silva, 2009). Considerable understanding exists regarding complex humanitarian disasters; however, in order to reduce vulnerability in the long term, humanitarian operations must be able to access information and utilize understanding that can be operationalised in their decision-making. This will require

⁴ Comment online at http://community.eldis.org/.59ebc24e/0

adjustments not only in specific activities, but deeper changes in the ways in which humanitarian organizations and policymakers conceptualize poverty, vulnerability, and sustainable development (Nyborg 2011).

The second is how institutions involved in humanitarian responses are connected, including governments, NGOs, UN agencies, private-sector actors, and local formal and informal (Næss, 2008). There is interdependence as well as conflicting interests between these institutions and negotiations and power relations between them determine which voices and problem understandings are heard, and how humanitarian actions are targeted. A particular concern is the way in which the voices of the vulnerable are represented in this institutional and political landscape. Decision making under uncertainty and unpredictability, with highly differentiated and sometimes unintended negative effects on various groups, demands decisionmaking processes that are inclusive rather than top-down in nature (Funtowitc; Eriksen et al., 2011). In order to ensure that interventions effectively address the vulnerability context of different groups and in particular enhance their capacity to respond to change and control their own circumstances, there is a need to empower the vulnerable, democratize the decision making process, and increase transparency. Such policy making empowers local knowledge regarding the social and physical aspects of disasters, highlights conflicting interests and makes value judgments explicit in policy decisions. The risk literature similarly emphasises need for community participation in disaster prevention and response and strategies (Pelling and High, 2005; van Aalst et al., 2008).

2. Objectives

The overriding research objective is to critically examine the scope and practical ways in which humanitarian responses may contribute to adaptation to climate change. Specifically, the project seeks to:

- 1. Enhance understanding of the long term implications of humanitarian interventions for efforts to build long term resilience and sustainable adaptation to climate change
- 2. Identify lessons from current interventions and policy approaches, in particular regarding discrete humanitarian policy approaches that empower the voices of the vulnerable in decision making and address long term vulnerability
- 3. Develop guidelines for how humanitarian interventions can better contribute to climate change adaptation in terms of use of information about complex climate and vulnerability contexts in operational decisions
- 4. Build capacity among Norwegian research and humanitarian actors to collaboratively engage in action-oriented knowledge production regarding climate change adaptation

The project objectives hence concern both understanding linkages between short term action and long term adaptation, identifying concrete lessons for humanitarian interventions, testing how these can be operationalised in humanitarian decisions, while building capacity within humanitarian research and action. These objectives are addressed through the following questions:

- 1) In what ways have past humanitarian interventions contributed to or undermined sustainable adaptation outcomes?
- What adaptation and climate knowledge do different actors have and how do power relations and conflicts of interest affect which knowledge and problem understandings are acted upon?

- How do these relations affect long term resilience and disaster risk reduction, in particular the politics of adaptation, including equity and the negotiation of adaptation options between different groups?
- Are there aspects of promoting sustainable adaptation which might conflict with existing humanitarian principles and practices?
- 2) What lessons exist where current policy tools and interventions have successfully linked anticipation/early recovery and adaptation (or failed to do so)?
- What types of vulnerability information (climate, conflict, migration) is needed for planning interventions that take climate risk and vulnerability contexts into account at an early point during a disaster so that the short term responses also contribute to sustainable adaptation in the long term?
- How have such interventions captured the differentiated vulnerability context and adaptation interests beneficiary groups (varying by age, gender and socio-eonomic status)?
- What is the role and limitations of humanitarian actors in advocacy and policydialogues regarding social and political structures generating vulnerability and how do humanitarian actors contribute to policy and practices debates around adaptation and disaster risk reduction??
- In particular, are there best practice examples of interactions between humanitarian institutions, development organisations and host governments that enable addressing the principles of sustainable adaptation and in particular empowering vulnerable groups?

3) How can lessons identified under 2) be developed in terms of general principles for staying ahead by managing climatic uncertainty and preventing related socially generated risks?

- How can guidelines best focus on soft (knowledge, social capital) and hard (infrastructure and laws) components in order to strengthen sustainable adaptation?
- How can information about the multiple stressors creating disasters (climate information, conflict, migration) be developed that is good enough to be factored into operational decision-making (and what sorts of information is relevant but not operational)?
- What modalities exist for dialogue (or are new modalities needed) to ensure that information that exists is used in humanitarian decisions?

3. Theoretical and methodological framework

The main theoretical and methodological challenge that this project addresses is to place academic understanding regarding adaptation needs in a framework of practical actions. This involves using lessons from research as well as from practical humanitarian interventions to develop guidelines for developing humanitarian policy and programmes towards integrating long term development and climate change concerns into shorter term actions.

In particular, it is important to see what institutional and policy models are required to achieve more sustainable forms of adaptation. Eriksen et al. 2011 suggest four normative principles that can guide responses to climate change. In the proposed project, we examine strengths and weaknesses in current approaches as they have been applied in six case study countries. We use this framework to critically assess existing policies and interventions are assessed according to the four normative principles of sustainable adaptation:

1. recognize the context for vulnerability, including multiple stressors;

- 2. acknowledge that differing values and interests affect adaptation outcomes;
- 3. integrate local knowledge into adaptation responses; and
- 4. consider potential feedbacks between local and global processes.

Preliminary attempts have been made to use this framework in analysis of local adaptation pathways in Ethiopia (Eriksen and Marin, 2011). The framework will be further developed through operationalisation in an analytical framework (developed jointly by all participants in the first project meeting).

Key informant interviews will be carried out with beneficiaries of humanitarian assistance as well as with personnel carrying out relevant programmes and interventions in order to identify the extent to which past and ongoing humanitarian interventions address these normative principles. Cases in six countries (Ethiopia, Kenya, Mozambique, Nepal, Pakistan and Bangladehs) are compared in order to reveal potentials for enhanced interventions as well as current limits to addressing sustainable adaptation in different contexts. In particular, the range of cases allow examining in depth particular themes, such as interaction between conflict, migration and climate vulnerability, as well as how responses to mega-disasters and recurrent disasters differ in institutional organization and linkages to local development realities, Special attention will be paid to analysis of gender, so far an understudied aspect in the climate change adaptation literature (Lambrou and Pyana, 2005; Terry, 2009). The case study countries are selected in order to compare across African and Asian contexts – two regions that have been targets of at times massive humanitarian interventions in connection with climate related disasters and which are considered vulnerable to climate change (IPCC 2007). In some of these countries, disaster risk reduction has been promoted as a potential climate change adaptation pathway.

The limits and potentials are hypothesised to be closely linked to institutional dynamics and varying objectives and vested interests of different government, humanitarian, aid and local formal and informal institutions, i.e. limits to the types of actions that humanitarian actors (NGO, government, UN, private sector) can engage in within the current institutional and political frameworks. Key informant interviews will target these actors for analysis of institutional frameworks, as well as the space for policy dialogue and advocacy.

The limits and potentials are also hypothesized to be closely linked to how different actors understand short term emergencies and their relation to causes of vulnerability. Interviews will focus on how understanding and information regarding complex vulnerability contexts, such as those created by climate stress, migration and resettlement, and conflict, is taken on board by various actors in humanitarian interventions and reflected in their use of tools such as vulnerability and capacity assessments (IFRC, 2010; Braman et al., 2010; Cannon and Kerbyshire, 2011).

In order to capture how vulnerability and local responses to climate related disasters are differentiated between groups (such as according to gender, age and livelihood systems), and to identify how such information from recipients could be used to improve interventions and enhance accountability, data collection will be carried out at village level (one or more villages as appropriate) in each study country. Where possible, data collection focus on villages for which partners already have data in order to build on existing expertise, contextual knowledge as well as enable longitudinal analysis. However, the studies may also expand to new villages/areas in order

to capture key issues. Data collection in each case country will also involve key informant interviews with government, development and humanitarian organizations at a national level, as well as document analysis. There will be at least one policy dialogue workshop/event organized in each country in order to test relevance of findings to practical applicability. The development of guidelines will rely on data collection and action research: In each case country, the examination will also follow at least one practical intervention or programme by a humanitarian partner in order to study both how operations currently contribute to the principles of sustainable adaptation, as well as the feasibility (or limits) to study findings regarding potential ways of improving interventions.

Teams of 2-4 will be put together to carry out each case study country and related analysis, including both research and humanitarian partners. NVivo or similar qualitative data analysis tools will be employed. In addition, analysis of quantitative global disasters data will be carried out through the RC Climate Centre.

Case studies

Ethiopia: The case study is led by Noragric through a postdoc position. Mekelle University, IDS and the Development Fund also participate in the team, focusing on gender and natural resource management, policy analysis, and linkages to development policies respectively. The current humanitarian crisis in the Ethiopian lowlands bordering Somalia has once again drawn international attention to problems of vulnerability and people's lack of options and opportunities to cope with recurring drought. Responses centred on emergency feeding in camps as well as wider food distributions are regarded as inadequate by governments, donors and humanitarian actors, alike. This case study will 1) provide insights into how humanitarian programming can contribute to longer-term responses that support adaptation to perennial droughts, ; 2) assess the relative importance of livestock in supporting stronger livelihoods and adaptation and, hence, provide needed alternatives to current approaches which centre on resettlement and the delivery of relief to newly sedentarised groups; 3) and analyse the role of humanitarian organizations in policy dialogues and empowerment of vulnerable groups; 4) the role of conflict in limiting such efforts.

Kenya: The study is led by IDS, with Noragric (including a postdoc) as participant. Like Ethiopia, Kenya is afflicted by recurring droughts. In both countries, food relief and emergency feeding have been the main responses to problems of acute drought vulnerability. However, while interventions in Ethiopia centre on resettlement and moving dryland populations further away from livestock-keeping, key political actors in Kenya have been more supportive of the need to promote livestock-keeping in dryland livelihoods, which is arguably most suited to the ecological conditions of non-equilibrium drylands such as those found in northern and eastern Kenya and the Ethiopian lowlands. This approach also dovetails with the COMESA Food Security Strategy for drylands as well as the African Union's Policy Statement on Pastoralism. The case study will 1) examine efforts to link up humanitarian responses to acute drought vulnerability, 2) identify the requirements of supporting more appropriate livelihood adaptation for dryland populations and 3) examine how institutions relate in linking adaptation and humanitarian responses through e.g. the National Climate Change Response Strategy (GoK, 2010) and efforts through the Ministry of Northern Kenya (whose portfolio covers pastoral development) and the Ministry of Special Programmes, which is responsible for humanitarian responses.

Bangladesh: The study is led by IDS. Bangladesh faces considerable challenges with climate change in terms of increased risks of cyclones, saline intrusion from sea level rise, and flooding. Bangladesh has one of the largest populations affected by recurrent floods of any country in the world. While the number of lives lost in natural hazards has been reduced considerably since the 1970s thanks to investments in flood management, coastal protection, cyclones and flood shelters and other areas, there are still significant challenges in protecting and improving people's livelihoods. The case study will focus on issues such as (1) how to include livelihood recovery in the recovery process in the context of resources destroyed by floods when there is little or no alternative land, (2) managing the need for people to move (supported migration) in the context of anticipated hazards, (3) managing recovery where land cannot be reoccupied until sea walls and protective hard measures have been replaced or repaired, (4) alternatives to being resettled in areas that are clearly going to be flooded or eroded again soon, and (5) warnings for cyclones to the success measures. The case study will build on experiences and data from the IDS-led Strengthening Climate Resilience (SCR) programme in the country and link up to the Action Research for Community Adaptation in Bangladesh) for which Terry Cannon is focal point (livelihoods and diversification).

Mozambique: The study is led by the Red Cross Climate Centre, with Noragric as a participant. Mozambique has been struck by massive floods, such as in 2000, but also experiences recurrent smaller scale droughts. It has been the target of DRR as well as climate change adaptation projects. The case study will focus on issues such as 1) how the institutional context for disaster risk reduction accommodates local knowledge and empowerment; 2) How responses to mega-disasters, such as resettlement affect long term development and adaptation; 3) how humanitarian, climate change adaptation and development institutions (host government, humanitarian actors and village institutions) relate in their policies, practical decisions; 4) modes of policy dialogues.

Pakistan: The study is led by Noragric, with CIIT and the Norwegian Refugee Council as participants. Having experienced several devastating disasters over the last 6 years, Pakistan gives as unique opportunity to learn about 1) not only the ways in which different types of disasters impact local communities, but also 2) the degree to which communities, government and aid agencies were able to respond to these crises, and take steps to prevent or mitigate the impacts of future crises. Following the earthquake in 2005, for example, the government of Pakistan developed a National Disaster Risk Management Strategy, and initiated work on provincial, district and community plans as well. When the flood hit in 2010 requiring massive levels of humanitarian aid, efforts towards the development of the DRM plans were stepped-up with the help of the international community. We examine 3) the extent to which they address the broader social, economic, political and environmental issues necessary in coping with the diverse and unpredictable insecurities resulting from longer-term climate changes in the region. Building on our on-going research in Pakistan on the implications of the conflict and flood on local livelihoods, we are in a position to explore both the content and the institutional context of whether and in what ways disaster risk management plans can, in practice, contribute to adaptation to climate change.

Nepal: The study is led by Noragric, with the Development Fund and NIDS. Relevant data are currently being collected by Noragric through an ongoing Norglobal funded project (Politics of adaptation). The proposed project will draw on these data as well as collaboration with the current Himalayan Climate Change Adaptation Programme (HICAP) carried out by CICERO, Oslo and ICIMOD, Nepal. The study will focus on 1) the institutional dynamics and interactions

determining humanitarian and adaptation interventions, in particular the approaches to addressing food security; 2) how such interventions address or reproduce local structural causes of vulnerability; 3) and the space of humanitarian organizations in engaging in policy dialogues regarding vulnerability understandings and empowerment of the most vulnerable.

4. Project organization and capacity building

The project is led by Noragric, through several senior researchers and two postdoc positions. The proposed project undertakes innovative research and builds capacity through a close collaboration between the research and practitioner (humanitarian and development) communities. All case studies will be carried out in collaboration with humanitarian organizations and their local sister organizations. The Red Cross is the main partner in the humanitarian community, through the Norwegian Red Cross (who will contribute to interpreting findings and testing them in operations as well as coordinate with sister organizations in case study countries) and the RC Climate Centre (Netherlands, who will conduct case study, policy dialogue and quantitative research). For example, the Norwegian Red Cross has signed a cooperation agreement with the Norwegian Ministry of Foreign Affairs (MFA) with the aim to improve community resilience. Through this agreement, Disaster Risk Reduction/Management (DRR) projects in several countries have been implemented, and a new cooperation agreement is being negotiated from 2012-2014 which will also include DRR projects in East Africa. Noragric and the Norwegian Red Cross will collaborate particularly closely in building capacity in the academic and practitioner community in Norway through, first, a series of seminars focused on humanitarianism and climate change adaptation organized through the Norwegian Climate, Poverty and Development Forum; and second, through testing how findings can be implemented in DRR programmes planning and management within the Red Cross.

The Norwegian Refugee Council is a humanitarian organization that will facilitate the Pakistan case study and ensure relevance to current humanitarian operations. Development practitioners operating at the local level, such as the Development Fund, will participate in the case study, focusing on ensuring relevance to local level developments activities, as well as participating in guideline development to ensure effective links between humanitarian and longer term development interventions (particular focus on Ethiopia and Nepal). The Institute of Development Studies (IDS, Sussex) will lead two case studies (Kenya and Bangladesh) and participate in a third (Ethiopia), as well as developing a joint seminar series with Noragric. Local academic partners that will facilitate and participate in case studies include CIIT (Pakistan), the Nepal Institute of Development (Nepal), and Institute of Environment, Gender and Development Studies, Mekelle University (Ethiopia).

The proposed project aims to build capacity both within the research community, humanitarian organizations, and the wider NGO and development community in Norway regarding how to develop humanitarian interventions in ways that contribute to adaptation to climate change. We intend in particular to strengthen the dynamic interaction and co-production of knowledge between the research and practitioner community through joint research and through enhancing the place for dialogue around how to approach urgent issues in the interface between climate change and disaster risk reduction. The project will draw on the experience of researchers and relief practitioners and planners that have a demonstrated record in providing new thinking and practice

in the fields of disaster risk reduction, humanitarian interventions and climate change adaptation. Participants have particular expertise within the fields of vulnerability and adaptation to climate change, gender analysis, humanitarianism, disaster risk reduction, policy analysis and dialogues, conflict situations, social exclusion, livelihoods, food security and development interventions

5. Dissemination

The project dissemination plan emphasizes policy outreach, researcher-practitioner-policy dialogue and scientific publications. Dissemination takes place through the following:

- At least five project and policy dialogue meetings will be held in conjunction with each other, hosted in turn by each of the participating institutions.
- Each meeting will produce a 2-4 page policy brief with major policy-relevant findings. These will be disseminated through project partners.
- One-two larger workshops/conferences will bring the international climate change, humanitarian and development communities together.
- A report detailing tools and guidelines for use by humanitarian organizations will be produced as an output of discussions between researchers, humanitarian and development actors, and policy makers (host government)
- Researcher-practitioner dialogue will also take place as part of the developing and testing of guidelines for strengthening adaptation in humanitarian operations as well as the investigation of models for policy dialogue.
- National dialogues will take place through regular seminars discussing lessons, tools and methods for humanitarian interventions in adaptation through the Norwegian Climate, Poverty and Development Forum
- International researcher-practitioner dialogue will take place through a joint Noragric-IDS seminar series.
- Building on the Norwegian Forum, the potential for building a Scandinavian forum or network regarding climate change and humanitarian policy will be explored
- Project findings, meeting presentations and policy briefs posted on a project webpage.
- At least 6-8 journal articles will be produced, comparing case studies, highlighting particular themes, as well as synthesizing the findings. These will be published through presentations in scientific and policy forums, one separate conference panel, as well as a special issue of a journal (such as IDS Bulletin, Climate and Development, Disasters).

6. Ethical and environmental considerations

The project will be carried out among populations that may be very vulnerable and facing acute livelihood crises. The project teams will take special care to avoid adding to work burden or hindering people's livelihoods activities in such situations. Anonymity in responses will be ensured. In cases of conflicting interests between various groups and actors, the project will strive for balanced representation of all views in policy dialogues and project documents. The project will strive to coordinate data collection and meetings in order to limit travel and related CO2 emissions. The project is not envisaged to have major environmental consequences.

References

Adger, W. N., 2003. Social aspects of adaptive capacity, climate change, adaptive capacity and development. Climate Change, Adaptive Capacity and Development, J. B. Smith, R. J. T. Klein and S. Huq (eds). Imperial College Press, London, UK.

Braman, L., Suarez, P. and van Aalst, M. K. (2010). Climate change adaptation: integrating climate science into humanitarian work. International Review of the Red Cross 92 (879): 693-712.

- Agrawal, A. and N. Perrin, 2009. Climate adaptation, local institutions and rural livelihoods. In Adger et al. (eds) Adapting to Climate Change: Thresholds, Values, Governance.
- Chambers, R. 1989. Vulnerability, coping and policy. IDS Bulletin, 20, 1-7.
- Christensen, J. H., Hewitson, B., Busuioc, A., Chen, A., Gao, X., Held, I., Jones, R., Kolli, R. K., Kwon, W.- T., Laprise, R., Magan^a Rueda, V., Mearns, L., Mene ´ndez, C. G., Ra[¨]isa[¨]nen, J., Rinke, A., Sarr, A. and Whetton, P., 2007. Regional climate projections. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K. B. Averyt, M. Tignor and H. L. Miller (eds). Cambridge University Press, Cambridge, UK and New York, NY, USA, 847–940.
- Cannon, T and Kerbyshire, A. 2011. IFRC Review of Vulnerability and Capacity Assessment (VCA) use in relation to climate change and urban risk issues. International Federation of Red Cross and Red Crescent Societies.
- DFID. 2011. Humanitarian Emergency Response Review. <u>http://www.dfid.gov.uk/Documents/</u> publications1/HERR.pdf
- Eriksen, S., Brown, K., & Kelly, P.M. 2005. The dynamics of vulnerability: Locating coping strategies in Kenya and Tanzania. Geographical Journal, 171, 287–305.
- Eriksen, S. and A. Marin 2011. Pastoral Pathways: Climate change adaptation lessons from Ethiopia. The Development Fund, Norway.
- Eriksen, S. and J. Lind. 2009. Adaptation as a political process: Adjusting to drought and conflict in Kenya's drylands. *Environmental Management*, 43(5), 817-835.
- Eriksen, S., Aldunce, P., Bahinipati, C.S., Martins, R. D'A., Molefe, J.I., Nhemachena, C., O'Brien, K., Olorunfemi, F., Park, J., Sygna, L., Ulstrud, K., 2011. When not every response to climate change is a good one: Identifying principles for sustainable adaptation. *Climate and Development* 3(1), 7-20.
- Eriksen, S. and Silva, J. 2009. The vulnerability context of a savanna area in Mozambique: household drought coping strategies and responses to economic change. *Environmental Science and Policy*, 12, 33-52.
- Funtowicz, S.O., Ravetz, J.R., 1993. Science for the post-normal age. Futures 25 (7), 739-755.
- Government of Kenya, 2010. National Climate Change Response Strategy (NCCRS). Nairobi: Government of Kenya
- International Federation of Red Cross and Red Crescent Societies. 2010. Disaster Risk Reduction and Climate Change Adaptation National Plan/Programme. Suggested Performance Framework
- IPCC (Intergovernmental Panel on Climate Change), 2007. Climate change 2007: impacts, adaptation and vulnerability. Contribution of W. Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, M. L. Parry, O. F. Canziani, J. P. Palutikof, P. J. van der Linden and C. E. Hanson (eds). Cambridge University Press, Cambridge, UK.
- Kolmannskog, V. 2008. Future floods of refugees. A comment on climate change, conflict and forced migration. Norwegian Refugee Council, Oslo.
- Lambrou, Y. And Piana, G. 2005 Gender: the missing component in the response to climate change. Rome: FAO
- Macrae, J. (ed.) 2002. The new humanitarianisms: a review of trends in global humanitarian action. HPG Report 11. London: ODI.
- Nyborg, I. 2011. When Local Meets Global: Negotiating rural livelihoods in the face of multiple security and development discourses and approaches in Afghanistan. Book Chapter (in press). Tapir Publishers.
- Naess, L.O. 2008. Local Knowledge, Institutions and Climate Adaptation in Tanzania. Ph.D. dissertation, Uni. of East Anglia, UK
- O'Brien, K., Eriksen, S., Schjolden, A., Nygaard. L.P. 2007. Why different interpretations of vulnerability matter in climate change discourses. *Climate Policy* 7, 73-88.
- O'Brien, K., L. Sygna, R. Leichenko, W. N. Adger, J. Barnett, T. Mitchell, L. Schipper, T. Tanner, Coleen Vogel and Colette Mortreux. 2008. Global Environmental Change and Human Security (GECHS). *Disaster Risk Reduction, Climate Change, Adaption and Human Security*. (Report 2008: 3)
- O'Brien, K.L. & Leichenko, R.M. 2000. Double exposure: Assessing the impacts of climate change within the context of economic globalization. *Global Environmental Change* 10: 221-232.
- O'Brien, Karen; Quinlan, T & Ziervogel, G. 2009. Vulnerability interventions in the context of multiple stressors: lessons from the Southern Africa Vulnerability Initiative (SAVI). *Environmental Science and Policy*. 12(1), s 23- 32.
- O'Keefe, P., Westgate, K. and B. Wisner, 1976. Taking the naturalness out of natural disasters. Nature 260 (5552): 566-567.
- Osbahr, H., C. Twyman, W. N. Adger, and D. S. G. Thomas. 2010. Evaluating successful livelihood adaptation to climate variability and change in southern Africa. *Ecology and Society* **15**(2): 27.
- Pelling, M. & High, C. 2005. Understanding adaptation: What can social capital offer assessments of adaptive capacity? *Global Environmental Change* 15(4): 308-319.
- Red Cross. 2009. Røde Kors' klimaplattform (Red Cross Climate Platform). Oslo.
- Reid, P. and Vogel, C., 2006. Living and responding to multiple stressors in South Africa glimpses from KwaZulu-Natal. Global Environmental Change, 16(2). 195–206.
- Shongwe, M.E., G.J. van Oldenborgh, B.J.J.M. van den Hurk and M.K. van Aalst (2011) Projected changes in extreme precipitation in Africa under global warming, Part II: East Africa, *J. Climate*, 24, 3718-3733, doi: 10.1175/2010JCLI2883.1.
- Schipper, E. L. and Pelling, M., 2006. Disaster risk, climate change and international development: Scope and challenges for integration. *Disasters*, 30(1). 19–38.
- Terry, G. 2009. No climate justice without gender justice: an overview of the issues. Gender and Development 17 (1): 5-18.
- UNISDR Basic Terms of Disaster Risk Reduction (UNISDR, http://www.unisdr.org/eng/library/lib-terminologyeng%20home.htm)

van Aalst, M. K., Cannon, T. and Burton, I., 2008. Community level adaptation to climate change: The potential role of participatory community risk assessment. *Global Environmental Change*, 18(1). 165–179.

Wisner, B., Blaikie, P., Cannon, T. and Davis, I., 2004. At Risk: Natural Hazards, People's Vulnerability and Disasters. Routledge, London, UK.