

Exploring climate change and disaster governance issues



**Climate and
Disaster
Governance**



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Acronyms and abbreviations

CCA	Climate Change Adaptation
CDG	Climate and Disaster Governance
CSDRM	Climate Smart Disaster Risk Management
CSO	Civil Society Organisation
DPPC	Disaster Prevention and Preparedness Commission
DRR	Disaster Risk Reduction
DRE	Distributed Renewable Energy
EWS	Early Warning Systems
FSP	Food Security Programme
HFA	Hyogo Framework for Action
IDS	Institute of Development Studies
IPCC	Inter-governmental Panel on Climate Change
KFSSG	Kenya Food Security Steering Group
LZ	Livelihood Zone
MACEC	Marinduque Council for Environmental Concerns
PRDCI	Panay Rural Development Center
PRSP	Poverty Reduction Strategy Plan
PSNP	Productive Safety Net Programme
SAC	Social Action Centre
TWG	Technical Working Group
WFP	World Food Programme

Introduction

Research on the governance implications of climate change and disasters for developing countries is in its infancy. Climate change brings new challenges to informal and formal institutions, and reveals new levels of uncertainty that forces us to ask questions about those governance systems. For example, are institutions flexible enough to effectively deal with the uncertainty posed by climate change? Do we know enough about how to link different scales of governance to support communities at risk in a changing environment?

Climate change will increase the frequency and severity of some hazards, while changes in average climate conditions are already damaging livelihoods, increasing poverty, and therefore making many people more vulnerable to hazards (IPCC 2007). Climate change is also increasing uncertainty with the rise in unexpected events and the fact they are happening for the first time. Governance is becoming more important as it involves the structures and institutions that determine the amount and quality of social protection people have access to, disaster preparedness and opportunities for livelihoods. Without good governance, it is inevitable that climate change will increase people's day-to-day vulnerability and makes climate-related hazards more powerful and frequent.

Policies to deal with climate change and new funding streams are emerging for Climate Change Adaptation (CCA) and Disaster Risk Reduction (DRR). Governments and development agencies need to understand what these signify for reducing poverty and vulnerability. The Climate and Disaster Governance (CDG) project explored the possibilities of bringing CCA and DRR together and this publication summarises the key outputs.

The CDG project is a collaboration between Christian Aid and the Institute of Development Studies (IDS) and started in 2007. It has enabled relevant practitioners, researchers and policymakers to develop their understanding of how the different fields overlap. The project explored research carried out by practitioners and researchers in developing countries. The CDG web portal shared tools and case studies of effective DRR from around the world, including original research on social protection in Ethiopia, accountability to communities in the Philippines and disaster insurance mechanisms in the Caribbean.¹

The first three chapters focus on specific pieces of research on social protection, accountability, and disaster insurance in the context of government accountability and the role of the private sector. The fourth chapter summarises research, by winners of bursary awards in Africa, Asia and Latin America, that assesses policy on climate change and DRR and the challenges governments and civil society face working together.²

The report highlights the findings from the CDG project and the continuing challenges faced in integrating CCA and DRR. In an attempt to address these challenges, the Climate Smart Disaster Risk Management (CSDRM) approach was developed in 2010 by IDS, Christian Aid and Plan International.³ This paper concludes by exploring the implications for CSDRM of the CDG project.

¹ Home page for the project where these can be found: www.climategovernance.org/

² Results of the small bursaries awarded researchers around the world:

³ The CSDRM project is the main activity of the Strengthening Climate Resilience programme: <http://community.eldis.org/scr>

1. Climate change, livelihoods and social protection^[4]

Rachel Cipryk

Rachel Cipryk examines the potential impacts of future weather patterns on rural agricultural livelihoods in Ethiopia and considers how this may affect existing government policies on social protection. Using Household Economic Analysis and climate change scenarios Cipryk investigates the impacts of future weather patterns on livelihoods in selected *woredas* (districts).

The scope, Cipryk suggests, for social protection to improve the circumstances of the poorest and most vulnerable through transformative measures is considerable. Cipryk recommends a number of strategies to achieve a more varied, holistic social

protection programme. Unless people become more flexible and embrace uncertainty, Ethiopia is unlikely to achieve poverty alleviation or economic growth.

The research focused on three areas: Irob Mountain Livelihood Zone (LZ), Hidaya-Kembata Cereal and Inset Zone and Alaba-Mareko Lowland Pepper LZ. In each, the provision of national social protection mechanisms was considered, regarded by Cipryk as the national Food Security Programme (FSP) comprising three core components: food security packages, the Productive Safety Net Programme (PSNP) and resettlement to productive areas.

4 The full version of this CDG Working Paper, 'Impacts of Climate Change on Livelihoods: What are the Implications for Social Protection?' by Rachel Cipryk is on line at: www.climategovernance.org/publications_and_resources.html



Current social protection policies

Ethiopia's current policies for social protection were designed with the protection and promotion of sustainable livelihoods as core elements. However, Cipryk's research reveals that changes to the current government programmes may be necessary to reduce vulnerability and provide better support to sustainable livelihoods in the context of a changing climate.

The PSNP offers immediate and medium-term protection against food insecurity by regularly filling the food gap. It also seeks to prevent households falling further into poverty by encouraging asset generation and increased income. In the medium to long term it is assumed that, if paired effectively with the livelihoods packages, PSNP households would experience beneficial effects that support agricultural livelihoods and a reduction in vulnerability and poverty (Food Security Coordination Bureau 2006).

However, the PSNP is only delivered to food insecure *woredas* – the Irob Mountain Livelihood Zone, for example – where livelihoods are already under threat (poor soil quality, difficult topography, naturally erratic rainfall patterns and dry climate, for example) and an increasing population is adding strain to already scarce resources. The impacts of dramatic and gradual changes in the climate are likely to exacerbate existing problems and create new complications.

These findings have implications for the way the FSP targets recipients at local and national levels. Selecting *woredas* for inclusion in the PSNP was initially based on historical food aid data. However current information suggests that those who are chronically food-insecure do not receive the benefits of PSNP and livelihoods packages. This is illustrated by a study that suggests the PSNP should conceivably support 30–35 million, or the number of people under the national poverty line (Vaitla 2006). Therefore, unless there is an increase in resources it is likely that the rising numbers of chronically food-insecure people – inside and outside PSNP *woredas* – will be forced to depend on unpredictable humanitarian assistance to fill their food gaps in the hungry season.

Maintaining a large number of households dependent on small-plot, rain-fed rural livelihoods may not be feasible in the future climatic context. To ensure that sustainable livelihoods remain the focus of Ethiopia's social protection programme, a shift in perspective may be needed – away from agriculture to include other forms of livelihoods. Without this shift, the FSP risks locking households into unviable livelihood options at the expenses of promoting self-sufficiency. Cipryk argues, that given the over-dependence on agricultural livelihoods as the primary answer to food

insecurity and poverty, a review of the broader policy framework may ensure the social protection strategy is pursuing realistic, holistic and diversified responses to vulnerability in the future.

Implications for the Poverty Reduction Strategy Plan

In the context of a changing climate, the Poverty Reduction Strategy Plan (PRSP) may need revising. It is currently PRSP based on the premise that poverty alleviation and national development can be achieved by increasing the levels of agricultural output through intensification and commercialisation of smallholder farms. However, it can be argued that the PRSP does not adequately take into consideration or plan for, the possible climate changes that are likely to occur, in some form or another. The call to implement widespread irrigation and water harvesting across the country, for example, may not happen in time for the conceivable changes of 2020. Where water shortages are not a problem this may not be relevant. But if the drier predictions are realised, government plans to expand off-farm opportunities for water-stressed regions will have to be intensified in order to provide for the numbers of people likely to need more support in a drier climate.

What is clear is that diversification is needed to support dynamic rural and urban communities that will need to adapt and change their livelihoods in the face of the increased vulnerability.

To deal with this changing context, plans need to take account of projected weather and climate scenarios by preparing people for a changed environment – whatever that may look like. Unless people diversify, become more flexible and embrace uncertainty, the political and economic structure of development in Ethiopia is unlikely to achieve poverty alleviation and accelerated growth. Instead, it will maintain or potentially increase the percentage of people living under the poverty line by offering families incentives to stay in unviable livelihoods.

An alternative vision?

Implementing an adaptation policy in Ethiopia to support diversification to broad-based, varied livelihoods strategies is possible but it would need significant support through social protection measures. A change in the demographics of growing urban and rural centres with the integration of people from all over the country will expose a range of vulnerability issues. In addition to economic

vulnerability, there could be more focus on the social dimensions of vulnerability, as different groups seek to build sustainable livelihoods and the consequences of urbanisation and increased population density become more apparent.

The scope for social protection to improve the circumstances of the poorest and most vulnerable through transformative measures is considerable. Outlined below are suggestions to achieve a more diversified, holistic social protection programme.

Protective and preventive measures

Robust disaster risk reduction plans can ensure that livelihood and disaster shocks are reduced and where needed, responded to rapidly, efficiently and effectively. DRR can provide a preventative and protective function to save lives and livelihoods. The use of early warning and weather risk financing schemes are examples of programmes that can help people respond to shocks and save vulnerable agricultural livelihoods in a timely manner.

Social insurance also provides a form of safety net for livelihoods that may have sustained a shock (weather-related or not) and need protective assistance from becoming transitorily poor. Cooperative relationships between the public and private spheres can be powerful in ensuring this. The public can establish regulations to protect the interests of the poor, while the private sector can respond to an increase in market demand as rural dwellers move and urban and rural centres grow. If demand is slow, the state can offer incentives for the private sector to engage, thereby encouraging growth in particular areas.

Appropriate transfers have the potential to protect the chronically poor from destitution and from falling further into poverty, assuming that transfers match local reality. For example, programmes could be regionally diversified to offer the best package for local households. Disaggregating marginalised groups by age, gender or social group will ensure that the chronically poor and most vulnerable are reached.

Promotive measures

Livelihood support packages for both on- and off-farm opportunities are 'promotive measures' that increase levels of resilience to changing climatic contexts and decrease levels of vulnerability. For households in areas that may not suffer substantial impact on their agricultural production in the future, such packages can help build a broader asset base and offers technologies, small-business training, microcredit to achieve greater diversification in livelihoods approaches.

School feeding programmes will create incentives for education and other benefits. School feeding

programmes provide additional calories to the family if children attend school; they result in increased school attendance rates and can reduce the gender gap in school attendance (Bennett in Devereux and Sabates-Wheeler 2004: 19), studies show. Both of these contribute to the long-term benefits to livelihoods by increasing the education levels.

Transformative measures

Land ownership rights will be particularly important in shifting towards diversification and commercialisation of farms. Land ownership rights have the potential to ensure that the poorest and most vulnerable people receive compensation for their land as a legal entitlement – given land is often their most valuable asset – should they choose to move away from agriculture. This may be important if there is a significant shift towards diversification, combined with the commercialisation of fewer, larger farms. It will be imperative to ensure that the poorest are not moved off their land without being adequately compensated.

Public-private cooperation will become vital if the number of off-farm workers seeking jobs rapidly increases. Helping the private sector respond to this demand will be fundamental to the expansion of the non-agricultural sector and can be done by easing the constraints to enter the market and set up businesses. Further, the private sector can address the gap in insurance provision and safety nets to a growing wage-labour population whilst the government works towards offering more inclusive welfare programming.

Regulatory policies for wage labourers can help to ensure that a growing workforce is protected from exploitation and supported in claiming their rights as workers. Specific instruments include: i) establishing a reasonable and modest minimum wage to protect the vulnerable; ii) supporting trade unions to help reinforce and monitor policies such as a minimum wage and to strengthen workers' collective voice so they are in a stronger position to negotiate better work conditions.

Challenging discriminatory behaviour that may arise as the human geography of the country changes from a primarily rural, agriculture-dependent society to a more integrated, urban, wage-labour dependent society will also be important. Linking with existing campaigns will help strengthen this cause – those helping to control the spread of HIV and AIDS or fighting against socially discriminatory behaviour, for example. By supporting a more engaged social voice some of the structural causes of vulnerability confronted by many social groups, can be challenged.

Improving public sector governance that could play a critical role in enhancing and deepening democratic



institutions and governance structures, ensuring citizens have greater voice and engagement in state and local government processes. This would contribute to a greater understanding by the government of the needs of poor and vulnerable people. Many of these reforms are underway and could be enhanced. Some of them include institutional capacity building, increased transparency of public accounts, judicial reform and decentralisation.

Though not exhaustive, the list above, of what a more effective social protection programme might include, highlights areas where a social protection strategy – based on a clear understanding of how livelihoods work and the causes, structures and processes that determine people’s vulnerability – could support efforts to adapt to the challenges of a changing climate.

Conclusion

The broad visions of development pursued nationally by policymakers do not necessarily reflect the realities faced by the millions of poor people in Ethiopia. This applies both to the timeframes under which planning is undertaken and to the policies pursued. A vision that extends beyond the PRSP will be critical for basing the five-year plan on longer-term strategies that are sensitive to the levels of change and uncertainty likely to be caused by a changing climate. It seems inevitable that longer term visioning will raise questions about whether or not the current PRSP – reliant on the success of the agricultural sector – is relevant to the needs of the population, and those of the poorest people in particular.

We cannot know the exact impacts of climate change. What is certain is that the climate is changing and with it, new challenges are arising. Impacts are, however, likely to include: increased temperatures which will affect crop water retention, changing rainfall patterns, changing seasonality, increasingly erratic weather patterns and shifts in the severity of shocks. Although it may be feasible to suggest how to deal with the changing environment now, it is equally likely that the picture described in this paper may not reflect the future. Indeed, we may well be under-estimating the challenges that lie ahead.

But even the climatic trends explored here are significant and include the need for political and financial support for proactive plans for an unknown future with flexible options. Without this support, the potential for poor households to adapt alone is limited and would lead to increased numbers of vulnerable people.

Although this discussion has focused on Ethiopia, it could equally apply to other parts of the world. Ethiopia – still envisaging a bright future through its development programme – should seek to explore the benefits to be gained from discussions that link livelihoods and climate change, but which do so at the household level. Only then will the possible impacts of a changing climate be seen as realistic and show the need for governments to pursue proactive policies that address future vulnerabilities. The social protection agenda aims to guide this future work by focusing on decreasing vulnerability in the context of a changing climate that will only increase vulnerability unless adaptation measures are put in place.

2. Accountability and disaster risk reduction: lessons from the Philippines^[5]

Emily Polack, Emmanuel Luna, Jessica Dator-Bercilla

Disasters are increasingly recognised as a consequence of poverty, vulnerability and exposure to different hazards. Accountability is a component of good governance in a number of guiding frameworks for disaster resilience (UN-ISDR 2005, Twigg 2007, Tanner et al 2009). However, processes intending to operationalise state accountability for reducing the risk of disasters are under-researched. This study sought to overcome this gap, by understanding accountability in development as a social and political process focusing on the role of Civil Society Organisations

(CSOs) in empowering citizens to hold policymakers to account.

Polack, Luna and Dator-Bercilla use DRR programmes in three CSOs and one national civil society network in the Philippines to identify how accountability in the DRR context works in practice, what conditions underpin successful policy engagement and subsequently progress on DRR. The researchers conclude by identifying key lessons from the Philippines on how to strengthen DRR through public accountability.

⁵ The full version of this CDG Working Paper, *Impacts of Climate Change on Livelihoods: What are the Implications for Social Protection?* by Rachel Cipryk is on line at: www.climategovernance.org/publications_and_resources.html

Analysing accountability for DRR

Theorists often propose that an 'enabling environment' for accountability is needed, on account of: the context-specific nature of citizen-state relations; the complex partnerships required for DRR; and the non-linearity of processes through which 'citizens grant power and demand accountability' (Newell and Belour 2002). To shift culture and practice away from disaster response and relief towards integrated DRR and resilience in a changing climate, considerable work needs to take place to raise awareness of risks, rights, relevant policies and practical solutions and the accountability mechanisms available.

The authors identify three important interrelated components of an enabling environment. If attained, these components would contribute to greater transparency in development planning and greater compliance and responsiveness amongst governments towards their obligations to ensure the safety of communities:

1. Opportunities and strategies for participation and citizen action

Establishing genuine forms of participation is essential to ensure citizens' views and needs related to risk reduction are heard. This is a fundamental pathway to achieving accountability in which citizens take a proactive role in engaging in and developing meaningful forms of representation. For example, formal accreditation and membership on local decision-making bodies will help improve transparency in local planning.

2. Recognised legitimate standards to hold actors to account

Creating and enacting relevant legislation and implementation frameworks provides the necessary institutional mechanisms, financing and capacity development relating to DRR thus ensuring a more responsive state for DRR delivery.

3. Widespread engagement of citizens claiming their rights and holding government to account

Opportunities to participate in DRR and make demands on government institutions benefit from improved capacities of claimants. These capacities can include access to information, awareness of rights and standards relating to risk reduction, notions of citizenship and responsibilities to selves and others, ability to mobilise others, and knowledge of advocacy and policy influence.

Using these ideas as a starting point the authors draw lessons from CSOs working on DRR in the

Philippines to deepen our understanding of how and why different strategies to demand accountability for DRR lead to different outcomes.

Specifically, they look at strategies that may enable a more responsive state that delivers on its obligations to citizens, by developing the three components of an enabling environment discussed above.

Disaster risks in the Philippines

The Philippines is exposed to climatic and geological hazards. With several fault lines crossing the country, earthquakes are a constant threat and there is always a concern that the devastating effects in Luzon in 1990 will be repeated. There are also 220 volcanoes, 22 of which are still active. The country is situated along the typhoon belt of the North Pacific Basin, where 75 percent of the typhoons originate: five to seven typhoons on average pass through the country annually causing widespread destruction.

According to the Inter-governmental Panel on Climate Change (IPCC) 4th Assessment Report, several effects of climate change in the Philippines are evident, including rising temperatures, increase in rainfall and the number of rainy days, and more floods and landslides (Parry et al. 2001:10). The natural risks associated with these trends are aggravated by human activities, particularly in the exploitation of resources such as forests and minerals, and equally concerning, from development interventions that do not incorporate responsible risk assessments. This is coupled with the exposure of a growing urban and highland population which increases the risks of communities to disasters, as in the case studies presented below.

Accountability in culture, government and governance

Accountability in language and culture

Accountability in the Filipino language reflects the socio-cultural values that underpin citizenship and state-citizen relations. DRR practitioners in Philippines see notions of accountability as deeply embedded in Filipino culture, expressed most closely in the term *pananagutan*. *Pananagutan* relates to the very concept of self. Filipinos also have a concept of the 'other' or *kapwa* – as an extension of one's being. Caring for each other is thus imperative because the actions of one affect every person as an extension of his/her being.

When considering organisational accountability,

the government (mandated by the people) becomes an extension of people's aspirations, wielding the power of public will. This power carries enormous responsibility to ensure the safety and welfare of the people. The government is then expected to answer or respond to the trust invested in it with appropriate action, especially during times of risk. This socio-cultural concept of accountability is enshrined in the Philippine constitution and in a much more explicit form in the Local Government Code of 1991 and its related laws.

The authors argue that if the government does not fulfil its obligations two expectations are violated: the informal socio-cultural trust and the formal legislated obligation. The informal obligation is sanctioned through social mechanisms such as being ashamed of one's behaviour, loss of trust, anger from those who were violated, and possible exclusion or retaliation. Violation of the formal obligation could mean social and/or legal sanctions.

The dual nature of accountability can certainly be seen as an asset. Polack, Luna and Dator-Bercilla believe, however, that the underlying cultural force behind accountability in the Philippines may also have its downside. *Pakikipagkapwa*, or establishing oneness with others, demands a lot of compassion. For some, this has been an impediment for public condemnation or penalties for public officials that are corrupt or abuse the law.

Progress in and barriers to disaster risk reduction

Under its obligations as a signatory to the Hyogo Framework for Action (HFA), the Philippines developed a Strategic National Action Plan (SNAP) with significant consultation and guidance from national and international NGOs. However, with no legal enforcement mechanisms, challenges have arisen at the implementation phase. CSOs, through a national network, have been working to address this, by calling for a new law that puts emphasis on the preventative and proactive components of DRR, thus addressing the current trend to be reactive to disasters. After several years of strategic advocacy work, the DRR Management Act (DRRMA) became law on May 27, 2010. The new Climate Change Act (2009) also promotes integration and addresses disaster risks.

The DRRM law illustrates an important shift in the government's approach to disasters – from disaster response to risk reduction. The new law also includes a liability provision that penalises Local Government Units (LGUs)⁶ that fail to enforce DRR measures to

avoid disasters. However, at a local level, LGUs have limited capacity in the proactive and preventative aspects of DRR and tend to continue to be oriented towards disaster response and the coordination of response activities.

Learning from the experience of successful provinces, the new DRR law enabled the creation of an executive body within LGUs (with the exception of barangays) specifically to manage disaster risks. This replicated the experience of Albay province in Southern Luzon in the Philippines. A case study of the Albay Public Safety and Emergency Management Office (APSEMO) revealed that an Institutional Disaster Risk Management Office could make a significant contribution to DRR accountability. It is believed that 'building confidence and empowering the community, enhancing local bureaucracy, facilitating learning, enhancing multi-stakeholder cooperation and promoting excellence in public service amongst others' will achieve this.

Particularly encouraging from an accountability perspective is the fact that the Philippines' governance systems mandate civil society participation as a mechanism to demand public accountability. This opportunity is enshrined in the Philippine Constitution, the Local Government Code as well as the old and new laws on disaster management.

Accountability for disaster risk reduction: cases from civil society

The three CSOs in this study – the Marinduque Council for Environmental Concerns (MACEC), the Social Action Centre (SAC) Infanta, and Panay Rural Development Center (PRDCI) – pursue different strategies to challenge inaction or unjust action directly and to reduce risks through various means – from supporting communities at risk, to representing those at risk, to acting as technical advisors. All three organisations are involved in developing DRR practice and policy whilst being mindful of challenging unequal power structures.

In reflecting on the work of the three CSOs, the authors identified the following elements as critical to building accountability as part of DRR interventions:

- community organising
- building local capacities
- engaging in formal pathways
- building horizontal social and political capital: convening dialogues, expertise and alliances

⁶ Local Government Units are local government structures with recognised responsibility and power over decentralised areas. They include autonomous regions, provinces and cities, municipalities and Barangays.

- building vertical accountability: operating across scales and linking local to national
- building the evidence base for effective practice in tackling poverty and its origins.

These approaches focus on building partnerships within communities and between citizens and government or private actors. In building stronger partnerships between government, citizen's associations and technical agencies, the CSOs have created spaces for citizens to be heard and to demand accountability. These approaches are not discrete, bounded or mutually exclusive. They are part of efforts to stimulate a social and political process to advance risk reduction. Many CSO interventions follow several pathways simultaneously.

Cross-cutting accountability: collaboration and contestation

The CSOs in this study work as intermediaries to ensure that the government is delivering on its commitments and responsibilities towards DRR. Capacity development work has shown the types of institutions and governance arrangements required at different scales to maximise efficiency of DRR efforts and resources. Formal pathways – or opportunities for official representation in local planning and disaster management committees – have facilitated transparency, representation and influence and thereby greater responsiveness. MACEC, for example, contributed to significant progress in mainstreaming DRR because of this formal form of engagement and its expertise in local planning processes (three MACEC staff are former municipal officers).

Mobilising advocacy around DRR policy gaps (such as weak DRR law and implementation) or around violations of existing legislation (such as logging and mining concessions) have raised the need for a proactive risk reduction approach to disaster management. This is a challenge, however, particularly in areas that have not been disaster-prone. Strong national networks have been established, linking local contexts to national policy processes and optimising partnerships, expertise and advocacy skills to deliver tangible policy outcomes and compliance with existing legislation.

Mainstreaming DRR requires collaboration and for a CSO to be effective LGU recognition and support is needed. Conversely, LGUs rely on support and expertise from CSOs. Collaboration usually involves training and bringing different stakeholders together to carrying out planning and budgeting activities during which a degree of trust is often fostered between LGUs and CSOs.

Collaboration and partnerships

Recognising that DRR is a process where pathways and outcomes between different actors have been negotiated and bargained for, the authors identified three types of relationships, outlined below. It must be recognised that strategies are always tailored to the cultural context and prevailing governance arrangements as well as continuously reshaping both.

1. Functional collaboration

Relationships are based upon a degree of consensus regarding the perspectives and methods used by the government, communities and CSOs in addressing DRR issues.

2. Critical participation

Engagement is based upon a commitment towards mutual support, whilst also recognising the different perspectives and approaches of governments, communities and CSOs and that there are significant limitations to government accountability.

3. Confrontation and contestation

Action is based upon conflicting views and approaches between government actors and citizens or civil society actors. This often emerges after collaborative and critical approaches have failed to establish common or compromised positions.

Accountability is at the heart of DRR

Accountability mechanisms take different forms. The new DRRM law created a new enabling space to reduce risk and more opportunities to establish formal accountability mechanisms between different actors. Examples include: having legislation in place that empowers citizens; a mandate for increased participation of CSOs in DRR; a stronger mandate to mainstream DRR; transforming the calamity fund as a resource for DRR. CSOs continue to push boundaries and reshape governance arrangements so that governance and the ways in which governments are held accountable are continually evolving.

Accountability also happens on an informal basis: the three CSOs have established relationships of respect and trust in their expertise and intentions when dealing with different actors. MACEC, in particular, has demonstrated its commitment to addressing environmental management challenges, providing a strong base from which to take a grounded approach to DRR in a meaningful way. Indeed, four aspects of MACEC's ways of working stand out: affiliation with the Catholic Church which sits well within traditional governance arrangements in Marinduque; a track record in anti-mining advocacy in the interests of the people; legal compliance through official accreditation; leadership qualities and expertise in local planning processes.



Conclusion: public accountability can strengthen disaster risk reduction

Accountability – as a fundamental principle in the equitable, effective, efficient and transparent delivery of services – can be as easily applied to DRR as any other policy arena. Accountability is a principle for exposing and addressing power relations between different actors and activities. Accountability is relevant to DRR particularly when it provides mechanisms for, and conditions within which, to tackle the underlying vulnerabilities of socio-economically, politically or geographically marginalised communities. Establishing social accountability is critical at every stage of the disaster management cycle; awareness-raising is fundamental for progress on DRR (Benson 2009).

This research shows that addressing weak accountability (low capacity to address disaster risks, non-transparent local planning processes that result in greater risk or the transference of risk to particular populations, or a lack of normative or legal standards that require investment in risk reduction, for example) requires an assessment of the barriers to effective DRR delivery. Only then can these barriers be tackled directly. In demanding government accountability, CSOs such as MACEC, PRDCI, or SAC Infanta have called on the government to take notice of other areas of development; they insist the government looks at other vulnerabilities and exposures to hazards

resulting from natural threats, or indeed its own development interventions such as logging, mining and agro-industrial monoculture.

DRR interventions led by CSOs that are conscious of accountability issues and spend time building accountable governance arrangements, are simultaneously contributing to an enabling environment where the government can be transparent, responsive to and compliant with its obligations to safeguard citizens' welfare and safety.

So that DRR interventions can continue to help improve accountability mechanisms, the authors make three recommendations:

1. Encourage more participatory spaces and opportunities to collaborate by organising communities around a single issue or convening participatory assessments, planning and budgeting processes.
2. Establish stronger normative and legal standards against which actors can be held to account. This should include options to influence national legislation on DRR, climate change and sustainable development, including the regulation of risk enhancing resource extraction and accountable governance.
3. Increase citizens' capacity to maximise the opportunities for genuine participation, to hold governments to account and to create new spaces for doing so by building capacity on DRR.

3. Can insurance play a role?^[7]

Rachele Pierro
and Bina Desai

The threat of climate change and its impact on poor communities in developing countries is encouraging innovative approaches to traditional mechanisms for coping with shocks and uncertainty. One example is insurance. Pierro and Desai explore the potential role of index-based disaster insurance as a tool for climate change adaptation and social protection in developing countries. Using Ethiopia as a case study, they argue that the current appeal-based emergency model is unsustainable. The paper explores two key factors – ‘timeliness’ and ‘reliability’ – that disaster insurance could bring to humanitarian intervention. It concludes that rigorous and extensive research is still needed before its role in DRR or CCA is clear.

Why insurance?

Poor people in developing countries are the most exposed and affected by natural hazards. They often have limited or no access to insurance and financial services and in most cases have to manage weather risks by their own means (Syroka and Wilcox 2006; Pelling 2007). Moreover, poor households exposed to uninsured risk tend to adopt low-risk strategies that may be economically inefficient. For example, by devoting large portions of their land to crop varieties that promise more reliable yet lower yields. If, or when, a disaster strikes productive assets are lost and farmers are cast into a spiral of poverty, from which it is hard to escape (Syroka and Wilcox 2006).

7 A full version of this paper: *The potential role of Disaster Insurance for disaster risk reduction and climate change adaptation* by Rachele Pierro and Bina Desai; can be found at http://www.climategovernance.org/publications_and_resources.html



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Given the changing and uncertain climate, Pierro and Desai show that previous assumptions are now being questioned. For example, will past practices be adequate and effective, or is there a need for more sustainable ways of dealing with weather risk and humanitarian assistance? In response, innovative responses, such as disaster insurance, are now beginning to be developed and tested (Pelling 2007; Morris 2005).

Index-based insurance

Traditional crop insurance mechanisms used in the United States, for example, have very high monitoring and administrative costs, so are not the best approach for developing countries. With index-based insurance, on the other hand, contracts are based on an objective index: rainfall, for example, is measured at a local weather station which acts as a proxy for the crops a farmer loses, rather than using actual losses to determine a claim. Field inspections are not required so that claims can be paid promptly and transaction costs are reduced considerably. One drawback, however, is that significant investments into initial research and the start up phase are needed – costs that international reinsurance companies may be reluctant to cover. However, some aid agencies and governmental organisations (such as WFP, DFID and the World Bank) have started piloting these schemes (Barnett et al. 2006).

A micro approach

To date, only a few micro level policies have been implemented. Examples include the microfinance BASIX pilot in India⁸ and the National Smallholder Farmers Association (NASFAM) scheme in Malawi. Both required high initial investment in the start up phase, primarily to collect necessary data. But it is anticipated that they will become self-sufficient as projects are scaled up and a large pool of insured people (over 10,000) is created. Micro policies can be sold to individual farmers or to groups (a cooperative or an entire village). If successful, such schemes could guarantee a high degree of community participation and control (Mapfumo 2006; Mechler et al. 2006).

BASIX, India

With help from the World Bank, an Indian insurance company (ICICI Lombard) designed a pilot weather-based insurance in 2003. This was marketed by BASIX (a microfinance institution), with reinsurance guaranteed by Swiss Re. The same year, 148 policies were sold to farmers with an average of two to ten acres of land. Two problems emerged during this pilot phase:

- The lack of available cash on market days as insurance policy sales clashed with farmers purchasing seeds.
- The complexity of the insurance policy: many farmers did not understand the language and terms in the policy document.

Based on feedback from farmers, the insurance policy has been improved. By the end of 2006 150,000 farmers had bought it. According to ICICI Lombard, weather insurance needs extensive government support for product promotion, subsidy and service tax (Mechler et al. 2006).

Major challenges clearly exist including the affordability of commercial insurance for poor people, the threat of large covariant losses to the insurers and the absence of an institutional architecture to pull risk transfer and risk reduction together (Pelling 2007). Investment in index-based weather insurance without a similar outlay in financial intermediaries and without effective marketing channels and supply chains (where linkages can be made) the take-up and scalability of such initiatives (UN DESA 2007) will be weak.

Experience from Malawi and India shows that these micro policies can face severe constraints, reducing their effectiveness as a tool for social protection for very poor rural communities. According to Joanna Syroka (World Bank) experience so far shows that poor farmers face chronic levels of risk. Are such micro policies the right option, particularly where agricultural services (such as credit, extension services), supply chains, markets and infrastructure are weak?

NASFAM, Malawi

Peanut farmers in Malawi traditionally use local seeds since they lack the funds or credit to buy high-quality seeds. In 2005, to become more creditworthy, National Association of Smallholder Farmers (NASFAM) designed a pilot index-based insurance scheme with technical assistance from the World Bank and Opportunity International. Multiple underwriters were necessary since no single underwriter was willing to take the risk given the huge payout in the event of a drought. OIBM agreed to provide loans to insured farmers. In the first season, 892 farmers (with an average of one acre of land) bought the insurance. In the first phase, harvest was low as a result of the poor seed quality and participating farmers were unable to repay their loans. This experience shows that, in bundled schemes (which include credit and input supplies), micro insurance can be a tool in disaster mitigation only if the coupled services are functioning well (Mapfumo 2006).

⁸ See <http://www.basixindia.com>

A macro approach

The first national index-based disaster insurance scheme was implemented in Ethiopia in 2006 and the first multi-country scheme in the Caribbean in 2007. In both, the contract is between the government (and/or donors) and a reinsurance company. The policies guarantee the national government a reliable payout as soon as an insured natural disaster strikes. The World Bank, WFP and DFID have been involved in promoting and piloting macro level policies and in helping national stakeholders to build capacity so that they can then link with international financial markets.

Caribbean Catastrophe Risk Insurance Facility

The first multi-country insurance pool was set up in February 2007 and has been purchased, thanks to donors' contributions, by 18 Caribbean countries. The Caribbean Catastrophe Risk Insurance Facility (CCRIF) guarantees participating governments immediate access to liquidity if needed. According to the World Bank, pooling risk will save participating countries approximately 40 percent in individual premium payments. Purchasing the insurance from the CCRIF, Caribbean governments can contribute to their own protection proportionate to their risk of their exposure to natural disasters and thus help safeguard their services. This in turn will help protect the poor who will suffer disproportionately and raise investor confidence in a participating country's ability to recover from a disaster.

Macro-level weather insurance is easier to implement as it only involves a small number of insured entities (governments and development agencies) and only covers severe drought. It does not require as many weather stations as micro insurance does (around 26 is sufficient across Ethiopia). Government and donors can also assume basic risk more easily than can individual farmers. There are additional challenges, however. The financial sustainability of insurance products is not easy to achieve, nor is it easy to create incentives to reduce risk or to find a balance between public and private roles; it is also a challenge to generate reliable historical and current meteorological data (Pelling 2007) to contribute to developing effective climate change scenarios as the basis for estimating future risk.

Humanitarian responses in Ethiopia

The limits of humanitarian responses in protecting the livelihoods and resilience of poor communities following a disaster are well-recognised. During the last severe drought in Ethiopia in 2002 over 1.5 million tons of food aid were shipped to the affected areas; humanitarian assistance, in the form of food and non-food relief, prevented famine. Millions of lives had been saved yet according to recent studies

the humanitarian intervention did not prevent a massive loss of livelihoods which has subsequently had longer term far more negative effects. The international community was slow to recognise the gravity of the situation, which coupled with the 'Food First' culture, which can dominate emergency responses, people's non-food needs were ignored – for example, people did not have access to much-needed seeds and veterinary drugs which lead to the further depletion of their already dwindling assets (Hess et al. 2006; DPPC 2004).

In 2005, the emergency system in Ethiopia went through a major reform. The government introduced the Productive Safety Net Programme (PSNP), a predictable and increasingly cash-based model targeting the chronically food-insecure. However, the current partial reform of the emergency system does not appear to be financially sustainable as it does not include an effective mechanism to protect the livelihoods of those who are transiently food-insecure. These individuals are likely to lose everything they own following a shock which will result in ever more chronically food-insecure people. In response, the first national disaster insurance was piloted in Ethiopia in 2006, aimed at transiently food-insecure communities (Hess et al. 2006).

Drought insurance in Ethiopia

The first national index insurance in Ethiopia was piloted during the 2006 agriculture season. The whole country was insured against drought by AXA Re; WFP paid for the premiums. The pilot targeted households identified as transiently food-insecure covering an estimated five million people. While the pilot provides only a small amount of contingency funding, covering 310,000 beneficiaries with a maximum payout of \$7.1 million in case of extreme drought, the model is calibrated to potentially assist 17 million Ethiopian farmers who risk destitution as a consequence of a severe drought. Throughout 2006, rainfall was above average across the country and so there was no payout. However, according to WFP, the pilot project showed that catastrophic risk is suitable for transfer to global markets (WFP 2006; Syroka and Wilcox 2006).

The pilot project set out to prove that market tools can finance drought risk and that accurate indicators can be developed to trigger drought assistance. In this respect, the pilot appears to have been successful, yet there are still challenges in terms of targeting and participation. Insurance could complement the Productive Safety Net Programme, but while recent studies (Sharp et al. 2006) suggest it has been successful in reaching the very poor, the need for wider local participation remains a challenge. According to some civil society representatives, the top-down approach of national



programmes can create conflict with local civil society, given it is not involved in identifying or planning public work projects. In fact local NGOs are not involved in identifying public work planning, and the large scale of these projects undermines the viabilities of their small projects.

An additional challenge is the complexity of cost-benefit analysis. Cost-effectiveness is essential where both national governments and donor organisations are facing budget constraints. There is also concern that aid money should not be used for piloting innovative schemes but on crucial development programmes.

Conclusions

This paper discusses the possible benefits of weather insurance in long term disaster risk management. According to WFP and World Bank, index-based insurance can improve vulnerable communities' resilience, protecting people's livelihoods, so they are less likely to be trapped by dependency and destitution (Pelling 2007; Morris 2005). However, more analysis needs to be done, including a critical cost-benefit study focused on the following issues:

1. Does disaster insurance offer an economically sensible approach for governments and aid agencies?

The financial rationality behind disaster insurance relies on the concept that certain and well-timed funds, made available through this insurance, would prevent vulnerable people from falling into destitution. The financial burden caused by lack of reliability and timeliness in humanitarian interventions should be investigated at a country and community level.

2. More research is required to analyse current experience and develop solid feasibility studies.

As disaster insurance has only been implemented at a pilot level many questions remain. More research and comparison between different projects is necessary to understand the feasibility of this approach, its financial viability and the options for its implementation.

3. How have participation issues been addressed and how can engagement with civil society be improved?

Effective use of disaster insurance can only be achieved if civil society is meaningfully involved. That said, the need for wider local participation remains a challenge and deserves further consideration.

4. Integrating climate change and disaster risk reduction: emerging governance debates.^[9]

Katie Harris and
Terry Cannon (editors)

Research on climate change in relation to DRR is as varied as the social, political and environmental contexts that experience it. What is clear is that the changing climate is an enormous challenge for DRR, because it is both making many people more vulnerable to hazards (through the negative effects of climate change on their livelihoods) and is worsening many of the hazards themselves. This raises new questions, such as how agro-meteorological services can relate to farming communities by providing relevant information. It also forces us to ask old questions in new ways: how do we ensure the participation of vulnerable and affected communities in decision-making on CCA and DRR policies, for

example? Governance issues are therefore at the heart of the need to integrate CCA and DRR.

This chapter focuses on the issues raised by some of the researchers involved in the CDG research bursary scheme who carried out studies in the Honduras, Tanzania, Honduras, Guatemala, Nicaragua, Philippines, Kenya, India, Bangladesh and Mongolia.¹⁰ They examine the institutional arrangements necessary for integrating national policies on CCA and DRR as well as at issues of participation in decision-making processes and the accountability of CCA and DRR policymakers to vulnerable communities.

⁹ This chapter is a summary of short papers submitted by researchers from developing countries who won bursaries under the CDG project, edited by Katie Harris and Terry Cannon (IDS).

¹⁰ The bursary scheme information is here (please note that the scheme is now finished): www.climategovernance.org/research_bursary.html



Governance and institutional arrangements

Existing institutional arrangements for DRR are often long-standing and have an effect on prospects for integration with CCA. These DRR institutional structures pre-date more recent concerns about CCA and thus play a key role in creating an 'enabling environment' for adaptation and, in particular, 'climate-smart' DRR. As such this is an important focus for emerging research.

Tanzania

Providing accurate and useful climate information is essential. But it is challenging for governments that lack financial and human resources. Examining the provision of operational agro-meteorological information and services in Tanzania, Issack Kitururu argues that farmers seldom benefit from agro-meteorology advisory services. This is significant because the unpredictability of annual weather patterns is now a major challenge for rain-fed agriculture, especially for smallholder farmers. Appropriate agro-meteorological information is vital for smallholders to help deal with the risks they face (for example, the loss of planted seeds or crops due to unusual severe weather, including drought, heavy rains and strong winds), and to prepare for contingencies.

The study identifies several policies that are relevant in assessing the problems of rain-fed agriculture in Tanzania including: the Rural Development Policy (2005), the Agriculture and Livestock Policy (1997), the Tanzania Development Vision 2025 (1999), National Strategy for Growth and Reduction of Poverty (2005) and the National Information and Communications Technology Policy (2003). While they clearly accept the significance of the problems of rain-fed agriculture, the policies are insufficient in their references to the increased uncertainty and changing weather patterns resulting from climate change.

When most of these policies were developed, structural adjustment programmes dominated government policies, emphasising the increased involvement of the private sector in most economic areas, including agriculture. Whilst the strategies recognised the need to deliver appropriate services to help smallholder farmers increase production, this did not specify provision of agro-meteorology services for at the farm level to help farmers deal with climate uncertainty. In addition, although the policies recognised extension agents as the best intermediaries in agricultural-related service delivery, there is no specific guidance to ensure farmers receive area-specific agro-meteorological information.

The Meteorology Act of 1978 is an important institutional arrangement with legal, regulatory and organisational frameworks, recognising the need for meteorological services and obligatory measures. But it restricts the dissemination of weather services by 'unauthorised persons'. This means anyone outside the formal system of the Tanzania Meteorology Agency, including those who might be considered indigenous forecasters. This may hinder the use of locally-available knowledge that could offer the development of partnerships between formal science and local indigenous knowledge.

The need for agro-meteorology services by smallholder farmers in a rain-fed agricultural system is high. Kitururu's research, in three villages in Same District, revealed the paradox that smallholders recognised indigenous forecasters but did not always confide in the information provided. The more formal agro-meteorology services can be quite detailed, including analysis of rainfall quantity, start date and duration across the season, and information on winds, pests, floods and drought. But the research showed that weather services were not area-specific and timely enough to be relevant for farming decisions.

Radio was singled out as the main source of regular weather information by smallholder farmers, as it is most accessible and provides daily weather briefs, yet it is not considered the most reliable. However, agricultural extension workers at the ward and village level provide farmers with timely weather information to farmers in various ways including: village meetings, conversations with agriculture extension workers, voluntary participation in NGO activities, talking with indigenous forecasters. These methods are crucial self-help initiatives enabling farmers to become aware of changes to the weather and make informed decisions.

As Kitururu's research shows, where institutional arrangements are failing to provide relevant weather information, people use a range of formal and informal strategies for coping and adapting. Yet, where no suitable alternatives exist, the failure of formal strategies leaves farmers vulnerable to the increasing uncertainty brought by climate change.

Guatemala and Nicaragua

In an example of how private sector and community governance can work together, Debora Ley researched the governance of community-scale renewable energy systems in parts of Central America. She explores how Distributed Renewable Energy (DRE) systems can provide electricity that can be used both to prepare for and recover from disasters, and to

diversify income and livelihood opportunities, thus reducing dependency on natural resources.

DRE systems are small-scale, user-initiated facilities based on the renewable energy sources of the sun, wind and water. They include technologies based on centralised infrastructure, such as small-scale hydroelectric plants, or decentralised systems, such as stand-alone solar photovoltaic systems. The DRE projects examined in the case study are small (under 5MW), located in rural communities, and aim to combine development, emissions reduction, disaster prevention or disaster reconstruction.

Ley's research suggests that local governance of renewable energy technology is just as important for the project's success as the technical aspects of the systems adopted. The findings show how renewable energy, supported by good local governance, can help alleviate vulnerability by creating alternative livelihoods (thereby decreasing dependency on the natural resource base) and stimulating social networks that improve community communication, unity and organisation. These aspects provide a more secure income source which improves power relations and governance structures within the communities, thus reinforcing the local governance structures on which its success depends.

Governance structures for the centralised community energy systems seem to have had better results because all homes depend on plant operators and a manager. In the Guatemalan community of Nueva Alianza, which has a micro-hydroelectric plant and a biodiesel plant, a community member said, 'we have worked together with a lot of unity and communication, everybody has an equal say, we all benefit equally from the profits, whether it's [in the form of] a salary, illness benefits, or special occasions'. In the decentralised systems, owners preferred to be responsible for the upkeep of the system, and this worked apart from some cases of technical failure. Although governance structures were in place, they only worked properly for a few years at most.

The individual tariff collection and communal technical assistance model was dominant in communities with stand-alone photovoltaic systems (solar-powered electricity generators). A solar programme in Guatemala had set up 'energy committees' in each community they worked in. Committee members were elected by the community: a treasurer collected the monthly fees and deposited them in a bank account; technicians assisted community members with repairs. Despite the committee structure, however, there was a lack of awareness amongst the community about the benefits they were entitled to (such as technical assistance) in return for paying the fee.

Ley's research found that renewable energy systems also enabled access to other technologies that that now play a role in disaster preparedness and recovery. These include improved health care as well as radio communications, computers, television and radio which provide access to vital information. The study concludes that social networks and community governance play an important role in the development of the DRE systems and their long-term sustainability. They do this by providing an organised means for their upkeep and contributing to improved community capacity for CCA and emergency preparedness (not only for climate hazards). It also helps improve communications for vulnerable groups, creates emergency brigades and other means of communal organisation, and, in some cases helps with decision-making in disaster management. Together, these findings confirm Adger's (2003) assessment that 'social networks play a primary role in adaptation and recovery'.

Ley's research recommends that policymakers allocate sufficient resources (human and financial) towards training, establishing and/or strengthening equitable local communal governance structures and capacity building to allow for better inter-institutional coordination for disaster prevention. In addition, the research reinforces the importance of local governance alongside the private sector, in particular at a micro-level.

The importance of government accountability at local levels and the participation of vulnerable communities in disaster risk reduction policy and planning are well recognised. This is particularly the case for effective governance and institutional management of DRR and CCA. As a recent World Bank report, *Natural Hazards, Unnatural Disasters* (2010), demonstrates, good institutions are fostered by ensuring that multiple and diverse groups with different aims and objectives are allowed to flourish. In doing so it is possible to ensure a range of views and options are always considered.

Honduras

Research by Alexis Flores Williams explored citizen engagement for DRR in local communities in Río Bejucales Colón, Honduras. It focuses on the role of training and capacity building for community leaders intended to build awareness around disaster risk, climate change for local government structures, and to strengthen accountability and engagement from those communities in the formulation of DRR policies and practice.

Flores Williams explains that CCA and DRR are not currently a priority for the local government as they



do not generate an income for the municipality. There is limited awareness and understanding of the topic, a reluctance to engage in new issues and a lack of direction from the national government. Environmental risks are seldom included in local government development plans. Moreover, local government decision-making is centred on the Mayor which this limits the role of other staff such as the municipal environmental unit. Despite this, advocacy within the municipality can have a positive effect.

In a context where civil society organisations see their role primarily as advocates and pressure groups to government structures, community advocacy can in fact act as a real driving force for change. However, Flores Williams' research reveals some unanticipated effects of training community leaders. Many entered local government following the elections in January 2010, with greater coordination and long-term vision than had happened before. The former community leaders' proposals, as local government members, in some circumstances, changed local authority actions. However, community leaders who are also members of the traditional political parties often lack autonomy and will not favour the community when the interest of the community is at odds with the potential economic benefits of politicians or people close to the local government.

The findings suggest that it would therefore be preferable to train leaders who are not affiliated

to traditional parties, so that citizen engagement can be increased. In the area of Balfate training leaders is undertaken with the intention of creating a social movement lead by the communities rather than one based on political affinity. Electing these leaders is difficult as they sit outside the main parties but if elected they are seen to fully represent the communities without political ties.

Building the capacity of communities and community leaders results in diverse and sometimes unpredictable outcomes. Increasing individuals' understanding and capacity can change power balances that can in turn affect the position and relationship of DRR and CCA in a political context.

Philippines

This research looks at citizen engagement and accountability in integrating DRR in local government structures in the Philippines. Benigno Balgos explores the role of citizen involvement in DRR in eight areas at high risk of flooding in Dagupan City. He focuses on Project PROMISE for reducing the vulnerabilities of communities to floods. His research also looks at the effects of climate change by enhancing individual preparedness and mitigation capacity. The project involved capacity building for DRR in local communities and for local government officials, plus a demonstration project on effective DRR practices that could be replicated elsewhere, and supporting partnerships and engagement across sectors.

Dagupan City was chosen as the project site because of the commitment of the city's government, which was crucial for the project. Thanks to their active involvement during implementation, citizens were able to make their authorities accountable for reducing risks. Balgos found that this happened in part by local government units committed to mainstreaming DRR and by the re-activation of mechanisms such as the City Disaster Coordinating Council. At the start of the project a Technical Working Group (TWG) was established, involving officials from the various sectors of city government (agriculture, health, the police, engineering and fire protection). This group served as the project's core and ensured its successful implementation. City officials who were part of the working group became crucial to the project as they were able to use their positions to obtain the support of other city officers.

The TWG members' access to the Mayor enabled the project to communicate its accomplishments and the challenges it faced widely and quickly. As a consequence, key city ordinances were passed, including Dagupan Disaster Safety Day (July 16th) to create public awareness for disaster risk management. In addition, the city government ordered quarterly disaster drills in schools and to plan to integrate disaster preparedness in the curriculum.

The reactivated Disaster Coordinating Council members undertook capacity building on early warning communication, evacuation and relief operations. The project has provided the city with motorised boats, life-jackets, hand-held radios, ropes and flashlights that they can use for preparedness and emergency. Recognising the similar risks in nearby provinces, Dagupan City initiated an alliance with other local government units and shared their experiences in reducing disaster risks.

Balgos' research suggests that the project was able to improve the lives of people living in high-risk areas. Aside from the equipment provided by the project, it increased citizen preparedness. Bernard Cabison, Barangay (local government) Chairman of Manguin, reflected on the significance of 'disaster prepared citizens' in reducing the burden on Barangay officials: 'When people are prepared, they know what action to do when disaster strikes; thus, they can save whatever resources they have invested in.'

Leonard Carbonell, Dagupan City Health Officer and member of the TWG, said that before implementation of the project, the people were dependent on the city government in disaster situations. The city government had had difficulties in providing effective assistance in disasters. Carbonell believes that people now have a better understanding of their role in disaster assistance as well as in the need for

being prepared. Communities are also now able to help others more in times of disaster.

According to Carbonell, if the city government had treated people purely as project recipients there would have been very little sense of ownership. However, the community-based approach meant that participation was encouraged and, communities were able to identify their own problems in their own areas, rather than having them defined for them by outsiders. Moreover, people were able to identify solutions to their problems and vulnerabilities according to their capacities. Carbonell added that the project proves that if the city uses community-based approaches in future projects they are likely to be more successful.

Although many community members were engaged in the project, some did not get involved for various reasons. According to Mr Moyalde not all his constituents showed interest in the project because they had little spare time. Those who did not take part in the project were more concerned with finding employment in order to meet food and educational needs of their families.

Balgos' research highlights the importance of participatory processes for creating joint ownership to deliver stronger community and local government partnerships. He also identifies the importance of incentives for involvement and the need to address barriers to participation such as poverty and people's need to deal with their immediate needs.

Kenya

Research by Charles Songok explores the challenges and opportunities for agro-pastoralists' involvement in policy processes related to CCA and DRR in the Keiyo district of Kenya. In the Central Rift Valley of Kenya, Keiyo has three distinct eco-agro-climatic zones: the lower Keiyo (predominantly semi arid, supporting pastoral lifestyles), the mid Keiyo (or hanging valleys) and upper Keiyo (rich agricultural highlands). The entire district faces serious eco-climatic and socio-economic challenges. Erratic rainfall in the lower part results in cyclical droughts, leading to crop failures and livestock losses. In addition, economic perturbations and erosion of household assets in the three zones result in deep-rooted problems, with adverse impacts that drive agro-pastoralists in the district from a state of vulnerability to destitution.

Songok's research suggests that the government's failure to conduct participatory research on CCA and DRR policy reduces the involvement of agro-pastoralists in policymaking processes. As a result,

the government often struggles to understand their experiences. The people then rely on civil society to communicate with the policymakers with the risk that they are misrepresented. Agro-pastoralist communities lack political influence and the resources to represent themselves. The research revealed that supposed representatives of the agro-pastoralists at the divisional level who participate in decision-making do not normally reside in the community, so the people's views may not be accurately represented.

Despite the constraints, Songok finds that opportunities for improving agro-pastoralists' involvement in CCA and DRR policy processes do exist. NGOs, CSOs and national lobby forums such as the Pastoral Policy Framework for Africa, Pastoral Week and Pastoralists Parliamentary Group and Constituency Development Fund have all been used by pastoralists for interaction with policymakers.

Currently, many international organisations (donors, United Nations agencies and NGOs) are independently using their own Early Warning Systems (EWS) for famine, drought and floods. But information generated by these agencies is largely inconsistent, inaccessible and inappropriate to agro-pastoralists. However, the establishment of the Kenya Food Security Steering Group (KFSSG) by the Kenyan government in collaboration with the World Food Programme (WFP), alongside initiatives such as the Strategy for Revitalising Agriculture and Vision 2030 provide opportunities for establishing community-based early warning systems. This could provide useful information sources for agro-pastoralists to learn, be informed and influence policy decisions related to CCA and DRR.

Songok's research also examined food insecurity. Interviews with policy actors in the district indicate that food insecurity has been a major problem among agro-pastoralists. In the lower Keiyo for instance, food scarcity is experienced for over eight months in a year, and worsens during periods of prolonged droughts. Household coping strategies include reducing food intake, relying on aid, migrating in search of pasture and water for livestock and, in extreme situations, selling livestock to buy food. Millet is stored in traditional granaries for times of acute food shortage. Recently, people have started to keep bees for their honey to supplement vegetables and preserve meat.

A significant finding is that traditional cereal crops with a higher drought tolerance have been re-introduced. These include finger millet, sorghum and vegetables such as spider plant, black nightshade, amaranth, pig weed, pumpkin leaves and jute mallow. The community has also recently started cultivating early-maturing crops such as cowpeas and using improved varieties of maize developed

by the Kenya Seed Company Limited and Kenya Agricultural Research Institute. Using the extension services provided by the Ministry of Agriculture's crops department, people have also shifted from traditional sowing of cereal seed by broadcasting, to planting crops in rows and using fertiliser.

Another strategy for mitigating the impact of unexpected shocks and risks from drought is small-scale irrigated farming. Communities living along perennial streams and rivers are producing vegetables and cereals. Most of these irrigated farms have been established by self-help youth and women's groups as a way of diversifying income and livelihoods. These farms are labour intensive and thus provide wage employment for people living in the lower parts of the district. The earnings are used to meet household food needs.

Songok argues that agro-pastoralists are unable to participate properly in CCA and DRR processes because of weak institutional arrangements and top-down governance structures. This also leads to their local strategies for CCA and DRR being ignored, even though they could inform government policy.

India

In Orissa, research by Arun Kumar Das with farmers captures their experiences and perceptions of climate over the past 20 years and compares this with meteorological data from local weather stations. His research found that 50 percent of the farmers in the study area had already applied adaptation strategies to respond to their experience of climate change. These included changes in crops, crop varieties, planting dates, along with increased irrigation and supplementing livestock. Many farmers cited a number of impediments to adaptation, including poverty, lack of savings and access to credit, insecure property rights and lack of social protection mechanisms to insure against the risks of using new techniques or technologies.

Kumar Das identifies four forms of social protection to support adaptation:

- i. Predictable cash transfers** can play an important role in mitigating the vulnerability of the chronic poor who will increasingly be exposed to climate related shocks and stresses.
- ii. Weather-indexed crop insurance**, based on a relationship between lack of rainfall and crop failure, verified by historical records of both rainfall and crop yields. Well-designed insurance products may also permit farmers to

enhance adaptive capacity by experimenting with agriculture practices (involving greater risk-taking) which are not evident in the traditional crop-insurance schemes.

iii. Asset transfers – the selling of productive assets (such as livestock and other household belongings) to recover from losses following climatic shocks can increase vulnerability. So too can the consequent inability to regain access to these assets which can trap the poor in persistent cycles of poverty. A sustainable strategy for DRR is therefore needed and should focus on activities that help the vulnerable build assets; social protection measures can contribute to asset accumulation through unconditional and conditional cash transfers. Microcredit programmes can provide the direct provision of livestock or poultry through asset transfers.

iv. Employment Guarantee Schemes, a legislative guarantee of employment can help build the resilience of rural poor people. The public work programmes, such as strengthening embankments, planting trees and de-silting irrigation channels can also be used to build household and community resilience against climatic shocks. However, social pensions schemes need to be developed and introduced among the elderly. Entitlements should not be based on a lengthy record of contributions to a pension plan and can include cash transfers, pensions and grants.

Mongolia

The urban poor may increase as migration and urbanisation become alternatives to adaptation or to the failure of adaptation. Davaanyam Surenjav researched environmentally-induced rural-urban migration. His case study explores models of future trends and sets out the policy implications for reducing rapid migration and managing migration in the interests of poor migrants and human security.

In Mongolia, the livestock sector accounts for 21 percent of GDP and 80 percent of Gross Agricultural Product. It occupies one third of the labour force. Surenjav's research identifies climate change and its impact on surface water shortages, desertification and overgrazing as main reasons for migration. In the period of 1991-2008, 10 percent (19,000) of total herder households migrated to the capital, Ulaanbaatar, and other cities in central Mongolia. According to migration scenarios, between 19 and 29 percent of herder households are likely to migrate to urban areas in the period 2009-2050 due to the

impacts of natural hazards such as drought and dzud (summer drought followed by severe winter snowfall, which kills large numbers of livestock).

According to Surenjav, environmentally-induced migration or relocation is not currently considered in national adaptation planning. Rural-urban migration can lead to increased poverty and unemployment that burdens infrastructure in urban areas. Better understanding, particularly at the national level, is needed to respond to how climate change is affecting livelihoods and migrating.

Bangladesh

Similar challenges associated with displacement and migration are explored by EP Reazul in his research on migration from Bangladesh's coastal regions to urban areas. Over the last decade sea level rises, tropical cyclone-induced flooding, spreading soil salinity, river erosion and other climate-related events have acted as direct environmental push factors in Bangladesh. These force the migration of the marginal rural poor to search for alternative livelihoods. In most cases displaced people move to urban areas from the low-lying coastal areas.

Reazul recognises that the rate of urbanisation comprises natural growth as well as different forms of migration. But in Khulna (coastal southwest) urbanisation increased (to Khulna city) from 5.1 percent in 1991 to 7.7 percent in 2001. He identifies involuntary migration from the coastal areas as a significant contribution to this. In the last five years the urban slum population of Khulna has increased rapidly, mainly as a result of people forced from rural coastal areas by climate-related disasters searching for alternative livelihoods. To address this Reazul explores a strategy of strengthening adaptation in coastal regions to reduce vulnerability (through new and modified livelihoods) whilst also strengthening urban planning to manage increasing migration and urbanisation.

5. Moving forward

Katherine Knightingale and Terry Cannon

Climate change, as explored in this report in various settings, is adding a new layer of complexity for understanding disaster with a governance perspective. Changes in production capacity, seasonality, the availability of suitable land and access to water, are all intertwined with issues of governance. This is most apparent in issues associated with the contested resources, inadequate capacities and conflicts of interest, differential access to key resources, decision-making processes and, ultimately, imbalances of power. Governance is about the 'rules of the game' that seek to influence, persuade and direct our ways of being, and with climate change there are significant shifts in the

way different stakeholders will seek to use or compete over power.

Given the centrality of power, it is perhaps not surprising that it is often challenging to bring together different interest groups to discuss the current and future impacts of climate change on disasters, and ultimately what policy and programme interventions are needed to help protect vulnerable people more effectively. Each group (NGOs, government, private sector, civil society groups, the media and so on) have different priorities and different ways of working and understanding the impacts of climate change on disasters.



Diversity in approaches and opinions, however, is not only valuable but essential. A recent World Bank report (2010), *Natural Hazards, Unnatural Disasters*, suggests, 'Public involvement and oversight ensure that good ideas are considered even if they are unusual... Such oversight also encourages communities to experiment with, and to devise, their own sustainable arrangements that promote prevention.' (p.8). As the varied nature of the research in this report shows, diversity can give us new and perhaps unconventional ways to think, to address challenges that have not been experienced before.

The CDG project has helped ensure that the governance context is recognised, explored, researched and considered. The research also illustrates the need for learning to be collated and shared in ways that help all actors to integrate CCA with DRR and development processes more broadly. Awareness of this need for a holistic approach to improve disaster risk management in response to climate change has been emerging over the past few years. In many arenas it is being pursued through the concept of 'climate smart' disaster risk management (see for example in 2009 discussions of the Global Facility for Disaster Reduction and Recovery).

A Climate Smart Disaster Risk Management (CSDRM) approach was developed in 2010 by IDS, Christian Aid and Plan International in response to the need for an integrated approach to guide policy and practice (Mitchell et al. 2010).¹¹ The CSDRM approach serves a number of purposes: to guide strategic planning, programme development and policymaking and for monitoring and evaluation purposes. It can also be used to cross-check disaster risk management interventions for their responsiveness to current and future climate variability. As an 'an integrated social development and disaster risk management approach', CSDRM is based on three pillars¹²:

1. Tackle changing disaster risks and uncertainties.
2. Enhance adaptive capacity.
3. Address poverty and vulnerability and their structural causes.

The importance of knowing, understanding and influencing what can be broadly referred to as the 'rules of the game' are equally reflected in the CSDRM approach. This is explicit, for example in Pillar 3, point 3a which talks about integrating DRR, CCA and development requiring the 'promotion of more socially just and equitable systems' and 3c which focuses on the need to 'empower communities and local authorities to influence the decisions of national governments, NGOs, international and private sector organisation and to promote accountability and transparency'. It is also implicit

in the Planning Monitoring and Evaluation framework (forthcoming) which emphasises that achieving 'climate smart' disaster risk reduction is not about 'ticking the boxes' of different components, but working across the three pillars to promote integration.

It is interesting to explore the relevance of the CSDRM approach in relation to the CDG research. Kitururu's study on the provision of climate information to smallholders in Tanzania relates strongly to the issues identified in Pillar 1 on tackling changing disaster risks and uncertainties. Two guidance issues within the approach are particularly relevant: 1b 'Periodically assess the effects of climate change on current and future disaster risks and uncertainties'; and 1c 'Integrate knowledge of changing risks and uncertainties into planning, policy and programme design to reduce the vulnerability and exposure of people's lives and livelihoods'. To some extent, these issues are explored through Kitururu's work and support the conclusions that there is a lack of adequate information and sharing of information and a weakness in the collaboration between climate scientists and farming support structures. Identifying these areas of weakness has allowed identification of areas needing significant improvement.

Kitururu's research focused on these guidance issues in the approach not because he wanted to explore Pillar 1 of the CSDRM approach, but because they are the key ones that smallholders are dealing with in Tanzania. However, if other researchers used Pillar 1 to explore the challenges of accessing and integrating climate information, much clearer comparative analysis and learning would emerge. It could bring together different regions and stakeholders in a structured debate on how to tackle changing disaster risks and uncertainties effectively.

The broad aim of the CSDRM approach is to encourage integration. Balgos' research explores citizen engagement and accountability for integrating DRR into local government structures in the Philippines. It touches on aspects of all three CSDRM pillars. He identifies specific DRR activities that took place with government officials across several sectors predominantly associated with the first Pillar. The research describes the collaborative relationships and networks developed, experimented with and then shared as a pilot as reflected in Pillar 2, and the importance of the participatory methods and tools that were key to achieving this. Finally Balgos' research touches on aspects of Pillar 3 by highlighting the importance of the project's work in helping citizens engage directly with governments and holding them accountable for reducing disaster risks. This is not done in isolation; links are made with the importance of

7 A full version of this paper: *The potential role of Disaster Insurance for disaster risk reduction and climate change adaptation* by Rachele Pierro and Bina Desai; can be found at http://www.climategovernance.org/publications_and_resources.html

addressing poverty and injustice: this was identified as a barrier as some community members could not participate given they were preoccupied with immediate employment needs.

The value of the CSDRM approach is evident when we consider not only how the CDG research aligns with its different components but by reflecting on how CSDRM reveals several areas that were not described in the Philippines project. For example, despite the detailed activities carried out to reduce disaster risk in the light of increased hydro-meteorological hazards, there does not seem to be the detailed and systematic use of specific climate change information, or the recognition of the

changing uncertainty and lack of predictability needed for early warning systems and preparedness. Pillar 1 emphasises that assessing the risk of climate change on disaster risks is not a one-off task; it is an ongoing process that needs the structures, relationships, knowledge, information and capacity to be able to continually incorporate emerging changes and uncertainties for the near future.

Exploring the CSDRM approach from the perspective of the Climate and Disaster Governance research shows how different approaches, tools and frameworks can relate to each other and support the comparative research that is vital for informing policy and practice more effectively.



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Notes:

Notes continued...



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