
Community
Based
Adaptation
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"Communicating community based adaptation"
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SIXTH INTERNATIONAL CONFERENCE ON COMMUNITY-BASED ADAPTATION
THE MELIA HOTEL, HANOI, VIETNAM
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SESSIONS, SESSION CHAIRS, ABSTRACTS AND PRESENTERS

SESSION CHAIRS

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Saleemul Huq	IIED	Saleemul.huq@iied.org;	24: Identifying CBA research gaps and building a CBA community of practice

SESSION 2

Session 2	Plenary session 2: Communicating climate change
Chairs	**Liz Carlile (IIED) and Blane Harvey (IDS)**
Abstract 1	Communicating it Right
Presenters	Harjeet Singh (ActionAid)
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Abstract 2	CBA enabling mobile pastoralists communicate on climate risks
Presenter	Awaiss Yahaya (CARE)
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Abstract 3	Developing and communicating the role of Social Protection and Resilient Livelihoods in CBA to inform policy and practice
Presenter	Nidhi Mittal (Save the Children)
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Abstract 4	Participatory learning - crossing the sectoral and disciplinary divide for adaptation
Presenter	Bettina Koelle (Indigo Development and Change)
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Abstract 5	Communicating community-based adaptation in relation to climate change in a developing country context: the case for Africa
Presenter	Shepard Zvigadza (ZERO, Zimbabwe) and Joan Karuiki Kungu (ACTS, Kenya)
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Abstract 6	Bridging the gap between climate scientists and communities at risk in Africa through early warning early action workshops
Presenter	Arame Tall (Senegal)
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Communicating it Right!!!
By Harjeet Singh

Climate change science has grown at a rapid pace and churned out numerous adaptation concepts and theories. In the last few years, development community has been striving hard to bridge the divide between these adaptation concepts and their practical application in the field. However, it has been observed that climate change is perceived as yet another 'sector' that needs to be mainstreamed into development and this leads to inadequate analysis of climate change threats.

Climate change has been able to attract the attention of media and the highest political echelons; however there is a lack of understanding of the issue both at government and civil society levels. It is vital that these concepts are demystified and communicated in a manner that deepens the analysis and informs the development strategies towards helping communities realise their right to resilient life and livelihoods. Communication plays a key role in introducing the concept of climate change to vulnerable communities and helps them in collective analysis of new challenges faced in their life. Communication techniques must be based on the socio-cultural context of the communities, which mobilize and empower them to fight unpredictable and unforeseen challenges posed by climate change.

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CBA enabling mobile pastoralists communicate on climate risks
By Awaiss Yahaya

Successive climate related crises experienced in Niger since the late 60's have led to a questioning of the traditional pastoralist strategies. The indigenous efforts of pastoralist communities to adapt to climate

change and environmental systems that affect their lives are no longer sufficient to enable them to sustainably address the situation. In implementing Community-Based Adaptation (CBA), communication of climate risks in Niger is a successful practice allowing mobile transhumant pastoralists to make important management decisions which enable them to adapt to climate change.

The paper presents experiences of communication of climate information in pastoral areas in Niger which reveals how mobile pastoralists understand and use climate information to either direct their transhumant route or make decisions to destock to meet contingencies. Fulani and Tuareg herders' festivals are utilized to transmit weather information, climate risks and develop strategies to address them.

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Developing and communicating the role of Social Protection and Resilient Livelihoods in CBA to inform policy and practice
By Nidhi Mittal

The world's hungry poor, especially women and children, are particularly vulnerable to climate change because they live in marginal environments in countries prone to weather and climate-related disasters, exposing them to climate change impacts, rely on climate-sensitive natural resources for their food and incomes; and lack the assets that would enable them to cope with climate and disaster risks. The presentation pulls examples from Save the Children's work across Ethiopia, Bangladesh and Mozambique to discuss the role of social protection and resilient livelihoods in enabling conditions for community-based adaptation to climate change for the most vulnerable groups.

It provides rich evidence for the importance of effective engagement and two-way communication with communities on disaster and climate risks and the role of participatory and empowering community-based planning processes. It also underscores the importance and integration of local and national policy, and effective communication to align policy and practice to enable longer-term transformative change for children and families.

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Participatory Learning - crossing the sectoral and disciplinary divide for adaptation
By Bettina Koelle

With increasing pressure for effective adaptation strategies on the ground, multiple frameworks for community based adaptation have been promoted. These frameworks provide useful guidance but do not address the dilemma of implementation on the ground: the complexity of people's livelihood, requiring integration of disciplines and different types of knowledge in a meaningful and empowering way. It has been argued that learning should be a central activity in any adaptation process – to enhance the capacity of local people to anticipate and plan for adequate livelihoods resilient to shocks and stresses.

However in order to achieve this we have to deal with complexity on all levels of implementation: from the grassroot level, the level of the implementing agency, to the global level. In this context communication and learning in partnership become crucial for successful adaptation strategies. This paper explores different creative ways of bridging this communication gap – using interactive learning events as a key component. The

paper also explores limitations of these events and suggests a toolbox for creative interactive learning approaches for adaptation.

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Communicating community-based adaptation in relation to climate change in a developing country context: The Case for Africa
By Shepard Zvigadza and Joan Karuiki Kungu

Community Based Adaptation to Climate Change is not all about action and activities, but it entails change of one's mind and how we do things. For this change to occur, communication as well as how this is done is essential. Community Based Adaptation to Climate Change communication comes in various ways. Examples include publications by implementing organizations, dramatization by communities and exchange visits between urban and rural communities as a way to enhance cross-learning. This paper draws on lessons from the pilot activities of eight African partners involved in a multi-country project called Community Based Adaptation in Africa (CBAA) project. This project was mooted in 2008 with support from IDRC and IIED and aimed to help 8 vulnerable African countries adapt to climate change and share lessons learned from project activities with key stakeholders at local, national, regional and international levels.

The main objective of communication under this project was to raise awareness and demonstrate that adaptation was really about to or is taking place. The paper seeks to track down how communication was initiated and pursued across and among different stakeholders including the methodology employed to achieve this. It also looks at how adaptation based activities and lessons learnt thereof were communicated for either replication or scaling up.

The paper concludes by examining the ways in which the CBAA project has helped to inform and enhance communication in subsequent work, including the role of communication in ensuring that lessons from CBA practice are incorporated in national climate change policies. It also makes recommendations on more innovative ways of communicating Community based Adaptation in relation to climate change.

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Bridging the gap between climate scientists and communities at risk in Africa through early warning; early action workshops
By Arame Tall

Recent experiences in West Africa with acting on forecasts by communities provide examples of how climate information can be linked to decisions and serve community based adaptation (CBA) in low-income regions. In this presentation, I will discuss the toll of Hydrometeorological Hazards (HMDs), on the rise since the mid 1990s across Africa, on frontline communities and local capacities to cope, and how climate and weather forecasts have been utilized by communities at risk from climatic events, with examples from Senegal, Mozambique, Kenya and Uganda. Climate services can prove to be a useful aide to CBA, provided that the obstacles thwarting communities' access to and use of forecasts are clearly identified, and overcome.

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SESSION 3

Session 3	Parallel session 3: Children as drivers of change
Chairs	**Paul Mitchell (Save the Children) and Caroline Borchard (Plan International)**
Abstract 1	Children's vulnerability to climate change and disaster impacts in East Asia and the Pacific
Presenter	Jill Lawler (UNICEF)
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Abstract 2	From participation to politics: child-centred risk communication for building community resilience
Presenter	Thomas Tanner (Institute of Development Studies, UK)
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Abstract 3	Video making: resilient children and community in motion
Presenter	Ratih Widayanti (Plan International)
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Abstract 4	A Child Centred Approach to Climate Smart Disaster Risk Management
Presenter	Ninh Nguyen Trong and Caroline Borchard (Plan International)
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Abstract 5	Child-centred CBA in the Horn of Africa
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Children's Vulnerability to Climate Change and Disaster Impacts in East Asia and the Pacific
By Jill Lawler

Climate change is one of the biggest development challenges of the twenty-first century. Communities across the globe are already experiencing the impacts of more extreme weather events, temperature changes and disease outbreaks. Though no one will be immune to the effects of climate change, children are particularly vulnerable. In 2011, UNICEF, with support from Reed Elsevier, commissioned field research in Indonesia, Kiribati, Mongolia, Philippines and Vanuatu to see if there were noticeable patterns and trends of climate change and disaster impacts on children. The studies also included interviews with children and youth to assess their perspectives on climate change. The regional report *Children's Vulnerability to Climate Change and Disaster Impacts in East Asia and the Pacific* summarizes key findings from the studies as well as brings together published evidence, along with the perspectives of children, on the potential impact of climate change on children over the course of this century. The regional report and country studies remind us of the connection between climate change and the other challenges confronting children. The impacts of climate change on the lives and well-being of children are real and the policies and decisions made today will set the tone for years to come.

See: http://www.unicef.org/eapro

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From participation to politics: Child-centred risk communication for building community resilience
By Thomas Tanner

This presentation discusses community based adaptation and disaster resilience from a child-centred perspective. It starts by arguing that:

- Much of the research and practice in community based adaptation and disaster reduction ***still focuses on children's vulnerability*** as victims of climate change and disaster events

By contrast, examples from programmes with children and young people in the Philippines and El Salvador illustrate:

- The value of ***child agency*** in adaptation and reducing disaster risks
- The ways that ***risks are perceived differently*** by children and other groups
- The need to recognise children as capable:
    - Risk analysers
    - Risk communicators
    - Mobilisers of action
    - Constructors of social networks
    - Implementers of action and learning

Finally, the presentation demonstrates and how the processes of analysis, communication and action are ***socially constructed and politically mediated***. Community based adaptation therefore needs to understand the role of different interest groups at different scales who compete for control of resources and the distribution of resulting costs and benefits. It argues that community based adaptation as a whole needs to:

- Engage ***children as agents of change with multiple modes of participation*** in community based adaptation
- Pay greater attention to the political processes from household to international level that mediate community resilience

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Video Making: Resilient Children and Community in Motion
By Ratih Widayanti

Indonesia is one of the most disaster-prone countries in the world due to its location in the Pacific Ring of Fire. Indonesia is prone to climate and geological-related hazards including earthquakes, floods, landslides, tsunamis, cyclones, volcano eruptions, and droughts. Plan as a child rights organisation understands that children are particularly vulnerable to the long term impacts of disasters and climate change. With Child Centered Climate Change Adaptation (4CA) program, Plan try to achieve safe and resilient communities in which children, young people contribute to managing and reducing the risks associated with changes in the climate. One of the activities is training for children on documentation of climate risk through video documentary, photography and report writing skills.

In Kefa and Lembata, two project area for 4CA program, children are trained to use camera to take documentation on their own village. Children are encouraged and participate include in story making, data collecting, interviewing, until editing the video. Being beginner on documentating, the process can build self-esteem and confidence on each child. Through video documentary, their process to become resilient and contribute to their community can be seen clearly motion by motion.

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A Child Centred Approach to Climate Smart Disaster Risk Management
By Caroline Borchard, Ninh Nguyen Trong, Kelly Hawrylyshyn

Children's health, education, livelihood prospects and well-being are already being significantly affected by climate change. So it is imperative that the climate adaptation community provides greater support for increasing the knowledge and skills of young people to adapt to an uncertain future. This presentation will

explain the Child Centred Climate Smart DRM approach. It provides guidelines for practitioners to promote an integrated approach to work *with* children and *for* children in tackling changing risks and uncertainties. The approach seeks to enhance adaptive capacity by addressing the underlying causes both of poverty and vulnerability to climate extremes. It shows why it is essential that the policies and public services that support children's survival and development – such as health, education and social protection – are also incorporating and contributing to climate resilience. Furthermore, the approach emphasises the importance of empowering children through appropriate child-friendly methodologies that ensure the transfer of climate adaptation knowledge and skills are relevant to their lives and that of future generations.

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Child-centred CBA in the Horn of Africa
By Johara Bellali

In July 2011, the Horn of Africa has faced another declared food crisis. Whilst responding to the emergency, the humanitarian and development community has been advocating for a shift in tackling the issue of slow-onset risks with the message: "it is not about rain".

Indeed, it is now more accepted by the humanitarian community that reducing risks and adapting to changes whilst responding to life-saving activities and promoting the access to basic services would create more resilient systems.

However, the humanitarian community also accepts that the Horn of Africa context is changing significantly as the climate shifts. More importantly they now also recognise that the socio-economic and environmental dynamics of climatic change in the Horn are not yet well understood. The risks of maladaptation are increasing as organisations and donors rush to respond to perceived impacts, often without through analysis of climate risk and adequate community engagement.

Children and their communities can, and should, lead the process of scenario planning and integrating climate risks and adaptation into their development plans and activities.

This presentation will outline the complexity of the Horn of Africa pastoralist context and explore ways to promote resilience building though giving a voice to children. It will showcase child-centred risk reduction and adaptation models developed through the education systems in Somaliland and in Kenya and and highlight how promoting the voice of children and youth can promote sustainable development.

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SESSION 4

Session 4	**Parallel session 4: Inland water management and coastal areas**
Chair	**Mel Phadtare (Nordic Assistance to Vietnam)**
Abstract 1	Adaptation Measures related to Climate Change: Lessons from the Andes
Presenters	Carolina De La Rosa (CARE Peru)
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Abstract 2	Community Climate Alliance to Protect Upland Watersheds of Babeldaob Island, Palau
Presenter	Umiich Fleming Sengebau (Babeldaob Watershed Alliance)
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Abstract 3	Multi-stakeholder cost – benefit analysis of climate change adaptation measures. case study: water demands and glacier melting in the metropolitan area of La Paz – El Alto
Presenter	Javier Gonzales Iwanciw, Heidi Zalles and Yesmi Cabrera (Universidad Nur)
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Abstract 4	Emerging ways of delivering adaptation benefits to communities: lesson from coastal protected areas in Colombia
Presenter	Oscar Guevara (WWF)
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Abstract 5	Improving coastal communities' adaptation and resilience through sustainable livelihood development and natural resource management
Presenter	Than Thi Hien, Tran Thi Hoa, Nguyen Thu Trang, Duong Ngoc Khanh (Centre for Marinelife Conservation and Community Development)
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Abstract 6	Climate change implications on small wetland ecosystem (ponds): challenges in communicating vulnerability of the poor communities in the coastal zone
Presenter	Golam Rabbani (Bangladesh Centre for Advanced Studies)
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Adaptation Measures related to Climate Change: Lessons from the Andes
By Carolina De La Rosa

Mountain ecosystems and the availability of glacier-fed water resources remain little studied despite the importance of these habitats to local communities and their relevance to the implementation of adaptation measures. Previous analyses in the region have given an overview of what is considered adaptation activities that address the adverse impacts of climate change and the role of these strategies to adapt to climate change. The presentation provides insights into adaptation strategies in the management of hydro resources in basins with a glacier component under climate change conditions in the Andes.

Community Based-adaptation is examined through a case study of communities along the Salkantay and Huaytapallana, in the Andes, Peru. An analysis of adaptation measures pilots in micro-basins provides the context for examination of the local arrangements and design of adaptation measures.

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Community Climate Alliance to Protect Upland Watersheds of Babeldaob Island, Palau.
By Umiich Fleming Sengebau

The Republic of Palau comprises the western-most group of the Caroline Islands in Micronesia lying 800 kilometres equidistant from the Philippines to the west and Papua New Guinea to the south. There are 340 islands in Palau, of which Babeldaob is the largest. It has a total land area of approximately 300 square

kilometres. Babeldaob watersheds and associated rivers and streams are an integral part of the island's biologically rich ecosystems and provide important services to the people of Babeldaob.

For generations, local communities have depended on the island's water systems for drinking and as a way to irrigate taro patches. However, in recent years inappropriate land use and severe weather patterns have begun to endanger Babeldaob major water sources. Deforestation of the area's upper watersheds and extreme heavy rainfall have led to catastrophic landslides, as well as increased runoff and heavier sediment loads in rivers and streams, while the government agencies charged with environmental protection are often under-funded, understaffed and/or under political constraint thus limiting their effectiveness. Not willing to sit back and allow their resources to further deteriorate, the Babeldaob communities, through their traditional and elected leaderships, have united to form the Babeldaob Watershed Alliance (BWA). The traditional and elected leaders are unifying the island's communities and preparing them to meet the challenges of maintaining water quality and healthy habitats posed by climate change, population growth, continued development and increasing subsistence and commercial farming. The BWA has shown innovative ways of communicating their needs to Government, to partner communities, and to international audiences.

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Multi-stakeholder cost – benefit analysis of climate change adaptation measures
Case Study: Water demands and glacier melting in the metropolitan area of La Paz – El Alto
Javier Gonzales Iwanciw, Heidi Zalles and Yesmi Cabrera

Climate change is occurring rapidly in the South American Altiplano, temperatures are increasing and precipitation patterns are changing affecting different rural and urban activities. The paper here presented explores stakeholders consultation carried over in Bolivia to better understand cost and benefit of a given adaptation measure in the context of glacier melting and water demands in the La Paz - El Alto area for different stakeholder groups. Climate change is a concern among the different stakeholders; the metropolitan area of La Paz and El Alto rely strongly on glaciers to address drinking water needs and demands, nevertheless important glaciers are melting rapidly and this will reduce 8 to 30% of the water storage capacity (in form of ice) in the different water systems of the city; is estimated that towards 2025 the contribution of glaciers to the water systems will be reduced in a range of 30 to 70%. The need to satisfy water demands has been mobilizing social vulnerable groups, the water cooperatives, farmers and rural communities to address the issue and in some cases claim for rapid solution of their demands. The Bolivian government and the public company EPSAS plan new investments to respond to the growing water demands of La Paz and El Alto population, some of them with important social and environmental tradeoffs.

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Emerging ways of delivering Adaptation Benefits to Communities: Lesson from Coastal Protected Areas in Colombia
By Oscar Guevara

For the last years, WWF implemented different projects and initiatives in the Coastal and Marine Protected Areas in the South Pacific – Choco Darien Ecoregion (Ecuador, Colombia and Panama), with a particular emphasis in increasing the resilience of coastal and marine ecosystems to maintain provision of environmental goods and services, and to benefit local communities in the face of different threats, including present and future climate conditions.

So far, WWF addressed different approaches related to environmental sustainability, in line with the development challenges that ultimately contribute to reducing poverty of coastal communities. As a result, different local action plans based on , for example, the assessment of climate change vulnerability , lead to improving understanding and building capacity of local authorities and communities to adapt to climate change in coastal / island regions where people depend on natural resources for their livelihoods.

The proposed paper describes a series of project activities that focus on sharing experiences and lessons learnt between different projects implemented or under implementation in priority places and emblematic species, and the experience gained by WWF. This evidence leads to emerging ways of delivering adaptation and to influence relevant local approaches and mechanisms on adaptation and response measures, with the use of innovative approaches, and building on the latest available knowledge and models for vulnerability assessments and developing a new methodology for Vulnerability Assessments

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Improving coastal communities adaptation and resilience through sustainable livelihood development and natural resource management
By Than Thi Hien, Tran Thi Hoa, Nguyen Thu Trang, Duong Ngoc Khanh

With about 25% of the population depending largely on the coastal and marine resources and ecosystems, and over half of the population residing in the lowland areas, Vietnam is considered among the countries most vulnerable to climate change with the most significant impacts occurring in the coastal and delta regions. Studies show that 1m rise in sea level could displace 22 million people, leading to a 10 % loss in GDP, and a predicted sea level rise may reach about 65 - 100 cm by 2100. Coastal zone and communities are highly exposure to the drought, floods, typhoons and extreme events.

Realizing these impending threats, MCD has initiated practical models on enhancing community livelihoods development and coastal resource management in response to climate change in the Red River Delta and Cat Ba Biosphere Reserves. Participatory CC vulnerability assessments, awareness raising campaigns, capacity building and knowledge dissemination have been conducted targeting to the community and stakeholders. Community-based adaptation models were developed in the selected communes; with the sustainable practice of aquaculture and development of community based ecotourism services. The success and lessons of these models have recently been shared for the possible replication and scaling up to increase the resilience of coastal communities.

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Climate change implications on Small Wetland Ecosystem (Ponds): Challenges in communicating vulnerability of the poor communities in the coastal zone
By Golam Rabbani and Syed Hafizur Rahman

Impacts of climate change on water resources are increasing global concern. In Bangladesh, most of the climate related hazards are related to water. Many people in both urban and rural areas struggle for safe water to meet regular needs. The poor living in the remote villages and hard to reach areas especially along the coast suffer most for the safe water. Many of the poor communities in the coastal zone depend on the small isolated wetlands (ponds) for drinking water and other domestic requirements e.g. cooking, bathing, and washing. It is also evident that the livelihoods (small scale irrigation for rice farming, vegetable farming and

home gardening) of many poor households in these villages depend on this type of small wetlands or ponds. For example, most of the poor communities living in *Munshiganj union* (lowest administrative unit) under *Shyamnagar Upazilla* (Sub-district) uses the pond water for vegetable farming/gardening in particular seasons (e.g. winter). But these ponds are highly vulnerable to climate change induced hazards including flood, drought, salinity intrusion, cyclone and storm surge, erratic behavior of rainfall). It may be noted that Cyclone Sidr in 2007 and Cyclone Aila in 2009 caused inundation of several thousands of these type of ponds with saline water. This had huge implications on availability of safe drinking water, health and hygiene practices and livelihoods of the poor households. The communities face different types of challenges to communicate the vulnerability for effective adaptation strategy at the local level.

This paper would emphasize observations on the impacts of climate change on small wetlands (ponds) in the coast and the challenges that the poor community face for developing effective adaptation strategy.

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SESSION 6

Session 6	Plenary session 6: Increasing community resilience
Chairs	**Robyn James and Annisah Sapul (TNC)**
Abstract 1	Community-driven development and climate resilience: a stocktaking
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Abstract 2	Societies in transition: lessons from two-year adaptation case studies in Africa and Latin America
Presenter	Ciara Kirrane and Cliona Sharkey (Trócaire) and Lars Otto Naess (Institute of Development Studies, UK
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Abstract 3	Strengthening local adaptive capacity: lessons learned from CBA Viet Nam
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Abstract 4	Enhancing community resilience through participatory integrated ecosystems and community vulnerability analysis and local adaptation planning
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Abstract 5	Limitations to climate change adaptation
Presenter	Antonio Oviedo (WWF Brazil)
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Abstract 6	Renewable energy in rural areas
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Community-driven development and climate resilience: a stocktaking
By Robin Mearns

Climate variability and hazards, including slow-onset drought and rapid-onset floods, cyclones and other storm events, are among the principal factors that prevent poor households from building up assets and consistently maintaining incomes at levels above than the poverty line. When climate-related shocks are repeated over time, and combine with the effects of other shocks (e.g. illness or death of the main family breadwinner, staple food or energy price spikes), households exposed to these hazards may be forced into a downward spiral of deprivation, often triggering distress sales of land, livestock or other assets in order to make ends meet. While climate change is already changing patterns of climate variability, and is expected to lead to an increase in the frequency and severity of extreme climate events, its effects are already being felt by the millions of people throughout the developing world that live in hazardous, risk-prone environments and are dependent on natural resources for their livelihoods.

Community-driven development (CDD), social funds, livelihoods-support and related operational platforms can serve as useful vehicles for promoting household- and community-level resilience to climate risk. To varying degrees, such operations support demand-driven mechanisms for delivering both the public goods (e.g. protective and productive infrastructure, safety nets, public action for improved risk management through early warning and response systems, and the social/institutional capital needed for successful collective action) and private goods (e.g. access to micro-finance services including savings, micro-credit and insurance) needed to secure, build and diversify livelihoods in the face of climate-related and other shocks; and the enabling legislation, regulations and policies needed for such approaches to be sustained at country level. An increasing share of the already large portfolio of World Bank-supported CDD operations now pays explicit attention to helping to build climate resilience. A number of initiatives being supported under the Pilot Program for Climate Resilience (PPCR) in participating countries also build explicitly on some of these operational foundations (e.g. in Cambodia, Niger, Tajikistan, Yemen, Zambia and others).

This paper takes stock of the lessons learned to date in building the resilience of vulnerable communities to climate risk through national-level CDD and related programs. It characterizes the forms of support that are provided, estimates the scale of such support that has been provided over recent years, and gives an indication of emerging trends and challenges that remain to be addressed. Key questions concern the institutional arrangements that link the community level of engagement to national level policies, and how they operate in practice. Attention to such cross-boundary institutions increases the likelihood that participatory, community-based processes of decision-making and resource allocation can be embedded within nationally owned systems that can be sustained over the longer term. Such programs and approaches, it is argued, hold significant promise for sustaining community based adaptation at scale.

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Societies in Transition: Lessons from two-year adaptation case studies in Africa and Latin America
By Ciara Kirrane, Cliona Sharkey and Lars Otto Naess

Case studies of vulnerability and adaptation typically examine vulnerabilities in particular localities at particular times. Less attention has so far been paid to examining findings in different localities and over a time period spanning more than one season. Drawing on local level case studies conducted over two years in Africa (Kenya, Malawi) and Latin America (Bolivia, Honduras), this study aims to draw lessons across localities. Data was collected on actions taken by households to tackle climate and non-climate shocks and stressors, constraints and opportunities faced, and the impact of external support and regulations. Findings suggest that despite considerable differences in social and environmental contexts, there are common patterns in that (a) a few 'key limiting factors' typically form the main barriers to adaptation in all locations, (b) external interventions to help livelihoods often undermine rather than support adaptation through poor targeting and lack of coherence across sectors, and (c) adaptation actions involve intra-annual and inter-annual trade-offs; i.e. that short term coping can undermine longer term adaptive capacity. The paper concludes that in order to improve responses to future climate change there is a need for more focus on responses that simultaneously addresses resource constraints and policy coherence across sectors.

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Strengthening local adaptive capacity: Lessons learned from CBA Viet Nam
By Nguyen Thi Kim Anh

The Global Environment Facility Small Grants Programme (GEF SGP) Viet Nam was launched in 1999. It provides grants to local NGOs and CBOs to conduct projects and activities in areas of GEF concerns, including biodiversity conservation (BD), climate change (CC) mitigation, and combating land degradation and desertification (LD and D). Community-based approaches are adopted in all SGP projects. Since its launch, GEF SGP Viet Nam has funded 165 projects, focusing on BD, CC and LD&D areas.

In recent years, GEF SGP Viet Nam has participated in two (2) community-based adaptation programmes (CBA), including UNDP GEF CBA and AusAID-funded Mekong and Pacific CBA (MAP CBA). Under these two programmes, there are 12 CBA projects, aiming to addressing CC impact to promote sustainable livelihoods in agriculture production by promoting environmental protection and sustainable use of natural resources. The presentation will provide concrete examples of CBA projects implemented in Viet Nam under these CBA

programmes. It will share the results, challenges and lessons learned gained during the implementation of these CBA projects.

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Enhancing community resilience through participatory integrated ecosystems and community vulnerability analysis and local adaptation planning
By Sunil Regmi, Tine Rossing and Dr. Judy Oglethorpe

Rural people living in fragile ecosystems in the developing world are particularly vulnerable to climate change as a result of their high dependence on natural resources for their livelihoods, comparatively higher exposure to climate shocks and stresses, and widespread poverty and marginalization. In Nepal, mountain areas are becoming relative 'hotspots' of climate change. These changes have potentially serious consequences for both the mountain ecosystems and the people living in them, as well as for the areas downstream. At the same time, mountain social-ecological systems have a great potential for adaptation.

In response to these challenges, the Nepal Hariyo Ban Program is assisting the Government of Nepal to build the necessary capacity among key local stakeholders to increase the resilience of both the vulnerable communities and their life-sustaining, but fragile ecosystems. The program is developing an innovative Training of Trainers program in support of the Government's Local Adaptation Plans for Action (LAPA). The master trainers will train community members as local resource persons to undertake participatory vulnerability assessments and local adaptation planning. The training expands upon CARE's and WWF's lessons learned from prior work on participatory climate vulnerability, capacity assessment and ecosystems assessment work done elsewhere, by putting principles of an integrated ecosystems and community approach to climate change adaptation developed by the Ecosystems and Livelihoods Adaptation Network (ELAN) into practice. The promoted approach complements the LAPA by focusing on participatory development of community adaptation plans, which will feed into the LAPA process from the bottom-up. In addition, the approach stresses the importance of grounding the community knowledge in a sound analysis of climate science to ensure that the adaptation planning fully considers not only present climate changes, but also future climate projections. Finally, a strong gender and social inclusion analysis is an integral part of this framework, as climate change results in differential vulnerability and causes shifts in existing gender and social dynamics. The presentation will outline the approach, results and lessons to date.

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Limitations to climate change adaptation
By Antonio Oviedo

This article presents an analytical modelling about limitations that may impede the process of adaptation to climate change in community areas (including sustainable use protected areas) in the Brazilian Amazon. The framework targets the process and limitations that reduce adaptation capacity. Three key components create the layers for the modelling analysis. The first is an analysis of the stages of the process of adaptation based on adaptive management method cycle. The second, a socio-ecological system includes ecosystems, resources,

users and management forms. For each step we asked (i) which could impede the process of adaptation and (ii) how the users, ecosystem and the governance contribute to the limitation. To facilitate the diagnosis of the limitations we propose a set of guiding questions. A model provides a starting point to address issues such as how adaptation to climate change can be implemented at all levels of decision making and adaptive management steps.

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Renewable Energy in Rural Areas
By Hoang Thi Thanh Mai

Phong Binh and Vinh Hai are two target areas of NAV's renewable energy pilot project, 2011-2012. Poor communes in Thua Thien Hue province are annually affected by typhoons and floods. Main livelihoods of local farmers are rice cultivation and animal husbandry. Traditional habits of burning agricultural waste after harvesting crops combined with poor waste management of animal manure, are contributing to increased GHG emissions and pollution of the environment. NAV's renewable energy project supports farmers with sustainable options, including:

- building single and multi-user biogas plants
- using efficient energy stoves
- producing organic fertilizer from agricultural waste
- exploring the production of bio energy from waste rice husk.

Models of biogas plants and energy efficient stoves in these communities demonstrate alternative energy options. The pilot also transferred techniques of biogas building to local construction workers and, trained biogas beneficiaries on usage and maintenance. From July-December, 2011, results from the two communes include: 242 single-user biogas plants built, four multi-user biogas plants built and, 78 efficient stoves installed. Increasingly families, especially women, desire energy alternatives such as biogas and efficient stoves. The benefits of this renewable pilot project to date include:

- savings in money and cooking time, enabling women to focus on other household/income generating activities
- health improvements from reduced wood burning
- improved sanitation during winter with biogas fuelled hot water for washing/showering
- secured clean energy.

An expansion phase of this pilot will be considered in 2013-2014.

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SESSION 7

Session 7	Plenary session 7: Mainstreaming CBA into government policies and planning
Chairs	**Nanki Kaur (IIED) Ali Tauqeer Sheikh (LEAD Pakistan and CDKN) and Margareta Wahlström (UNISDR)**
Abstract 1	CBA priority activities implemented in Ben Tre, pilot province under the NTP-RCC Vietnam
Presenters	Tuan Thanh (DONRE Viet Nam and NTP-RCC Ben Tre) and Erik Keus (NTP-RCC Ben tre)
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Abstract 2	Scoping for institutional adaptive capacities for bridging policy and practice
Presenter	Rajan Kotru and Navraj Pradhan (ICIMOD)
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Abstract 3	Integrating community based disaster risk reduction and climate change adaptation into local development planning
Presenter	Mathewos Hunde (Early Warning and Response Directorate, Disaster Risk Management and Food Security Sector, Ethiopia)
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Abstract 4	Southern Sulawesi Indonesia: Building coastal resilience to reduce climate change impact - how to engage local government in CBA planning
Presenter	Leonardy Sambo (CARE)
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Abstract 5	Capitalizing & Communicating the lessons learned from local CBA initiatives for upscaling and mainstreaming CBA in national strategies and policies – Sharing the experience of Morocco
Presenter	Naima Oumoussa (Ministry of Environment, Morocco)
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Mainstreaming CBA into government policies and planning: CBA priority activities implemented in Ben Tre, pilot province under the NTP-RCC Vietnam
By Tuan Thanh, and Erik Keus

Under the National Target Programme to Respond to Climate Change, the Provincial People's Committee of Ben Tre Province has established a Steering committee to select priority activities for climate change adaptation. Activities are proposed by provincial departments and district authorities and cover a wide range of sectors; community-based activities are usually related to water resources. A high priority is the construction of dams into brackish water channels to stop saline intrusion. Drinking water supply is improved by construction of a water treatment plant, that uses river water protected against saline intrusion, remote households are provided with a rain water storage tank and a community group is established to promote the utilisation of the new facilities. Water availability near the coast is brought closer with the design of a channel that will bring freshwater from far inland. In a commune where there is no other option, an installation for desalinisation by Reverse Osmosis will be installed. To adapt to saline intrusion, new coastal farming systems will be identified in cooperation with coastal communities. Mangroves have been planted to protect the coast against storms, and will be managed by nearby communities. Initial impact of the adaptation measures is described.

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Scoping for institutional adaptive capacities for bridging policy and practice
By Rajan Kotru and Navraj Pradhan

Institutional capacities at local levels play a crucial role in shaping adaptation. In the past, local institutions have shaped how rural communities respond to environmental challenges. Strong institutional mechanisms

will be crucial for adaptation, and the impacts of future external interventions. Adaptation to climate change will take place at local levels; therefore, it is critical to understand the role of local institutions, and their levels of adaptive capacity, in dealing with climatic and non - climatic changes. It is also important to examine local governance structures, the interface of public, private, and civic organizations, and their impacts on local livelihoods and coping strategies.

The Hindu Kush Himalayan nations have already adopted National Adaptation Programme of Action (NAPA) to climate change, and in some countries Local Adaptation Programme of Action (LAPA) are also being prepared. This discussion paper uses evidence that currently, climate change adaptation issues are poorly integrated in national development strategies, and in sectoral policies and plans, and there is an inadequate quality of service delivery on the ground. In other words, measuring adaptive capacities of local institutions needs to be integrated for future investments and interventions for shaping adaptation, improving capacities of vulnerable and social groups, and linking them to sectoral and national plans. A review of case studies conducted by ICIMOD indicates the importance of institutional analysis and arrangement (adaptive capacity) at local level, which is also the key in designing adaptation plans at various levels and sectors. Using criteria's such as – i)Adaptation, Institutions and Livelihoods (AIL) frameworks; ii) Institutional Mapping and; iii) Assessment of adaptive capacity of local institutions; public, private and civic; bring few learning. Firstly, adaptation metrics contouring adaptive capacity gaps is important for assessing the status of institutions, and then design a capacity package. Secondly, institutions are a bridge between policy and practice; therefore their convergent use must be made to deliver climate resilience pathways on a continual basis. The learning from these case studies and review are finally used, to make recommendations, firstly, to assess the roles of local institutions, and secondly, the need to integrate NAPA and LAPA, with national and local development strategies. Lastly, practical approaches and strategies which provide 'no regrets' adaptation solutions, increase developmental benefits, conserve biodiversity, and likely increase local adaptive capacities are recommended solutions for communities, practitioners, planners and decision makers.

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Integrating community based disaster risk reduction and climate change adaptation into local development planning
Mathewos Hunde

The Ethiopian Government launched its *Climate Resilient Green Economy* vision in 2011 in Durban. A more detailed climate resilience strategy development process is now underway involving all sector line ministries. At the same time, the Disaster Risk Management and Food Security Sector has developed *a Strategic Programme and Investment Framework* which aims to support the collection of Disaster Risk analysis, early warning information and ensure that Disaster Risk Management approaches can be mainstreamed into sector development plans. This shows how existing DRM institutions can provide some of the required services detailed in the Ethiopian Programme for Adaptation to Climate Change (EPA-CC), such as early warning systems and vulnerability analyses.

There are two important programmes within the DRM-SPIF which are relevant to this presentation, one is the Community Based Adaptation and Risk Reduction Planning process and the other is the CCA-DRM Integration component.

Working jointly with the Disaster Risk Management and Food Security Sector, the Environmental Protection Authority and Bahir Dar University, the Africa Climate Change Resilience Alliance has supported the development of a participatory methodology to build the skills of local officials and to ensure that risk analysis is used in the production of development plans. Encouraging greater community participation and implementing social accountability approaches are being piloted to identify whether these planning

approaches can improve the contribution of larger programmes such as *the Productive Safety Net Programme* to Disaster Risk Management.

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Southern Sulawesi Indonesia: Building coastal resilience to reduce climate change impact - how to engage local government in CBA planning
By Leonardy Sambo

The impact of the global phenomenon climate change will be felt on a local level, that's why communities and local government have to develop strategies to adapt to changing environmental conditions.

The first step to get communities and local governments involved is to give them an understanding about climate change and gain their interest with linking climate change with their own experiences (such a traditional methods of weather forecast are not applicable anymore).

In the next step target groups will be empowered with receiving training on the analysis of climate change impact in their community as well as existing strategies to deal with this impact (Climate Vulnerability and Capacity Analysis).

After developing technical expertise, the question is where to begin with the implementation of the analyses if such a huge number of households are affected by climate change related environmental problems. To solve this problem the CARE project team invited members of the local government and representatives of civil society organizations to develop criteria for the selection of villages where the CVCA will be implemented. This participatory process lead to strong involvement of the government and mutual trust – which is the fundamental base for building efficient partnerships between CARE and the local government.

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Capitalizing & Communicating the lessons learned from local CBA initiatives for upscaling and mainstreaming CBA in national strategies and policies – Sharing the experience of Morocco
By Naima Oumoussa

One of the roles of governments in the field of Adaptation is to encourage and facilitate up-scaling of Community-Based Adaptation initiatives and to mainstream CBA in broader development strategies, by building on the lessons learned from local pilot projects. It is also the government's responsibility to mobilize funds to implement Adaptation projects, and especially CBA projects throughout the country.

In Morocco, the Ministry of Environment is in the process of designing a climate change response strategy, including a strong Adaptation focus. This strategy builds on the lessons learned from a number of initiatives, including the pilot 5-year United Nations Development Programme (UNDP) global initiative funded by the Global Environmental Facility (GEF). The Small Grants Programme (SGP) is the delivery mechanism. The UN Volunteers (UNV) partners with UNDP and GEF/SGP to enhance community mobilization, recognize volunteers' contribution and ensure inclusive participation around the project, as well as to facilitate capacity building of partner NGOs and CBOs. The UNDP-GEF CBA programme supports community-driven projects that pilot a range of climate risk management practices at the local level. The programme also seeks to encourage systemic change in national adaptation-related policy through evidence-based results from its portfolio of

community-driven adaptation projects. Moreover, the programme promotes global learning by sharing lessons from a range of initiatives focusing on natural resource management.

The UNDP-GEF CBA programme field techniques and results have been fueling the national approach, through communication and promotion from local to national levels, along with other civil society and development programmes (such as GIZ adaptation programme, GIZ climate proofing, National Initiative for Human Development…).

The presentation will highlight the process aiming at mainstreaming CBA techniques in national strategies and policies, it will inform about the ongoing work toward the concretization of Morocco's Climate Change strategy: development of a CC Policy Development Matrix, incorporation of CC and Adaptation concerns into the National and Regional Environment Observatories' prerogatives. The presentation will essentially focus on :

- Communication and sharing of best practices tested in the field: UNDP-GEF's Vulnerability Reduction Assessment, climate change awareness at community level, promoting community concrete contribution, gender inclusion, rights-based approach…
- Recognition and Empowerment of CBOs and NGOs as partners for sustainable adaptation and implementation of national strategies
- A subtle combination of bottom-up and top-down approaches is key to effective and equitable adaptation
- The challenges inherent to communicating CBA for upscaling and mainstreaming (systemic, financial,…etc)

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SESSION 8

Session 8	Parallel session 8: Gender
Chairs	**Agnes Otzelberger (CARE) and Charles Nyandiga (UNDP)**
Abstract 1	Gender and Climate Change
Presenters	Moushumi Chaudhry (CCAFS)
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Abstract 2	Making Women's Voices count: integrating gender issues in disaster risk management
Presenter	Mette Frost Bertelsen (World bank)
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Abstract 3	Communicating the women's voice: gender equity and women's participation in CBA in Melanesia
Presenter	Annisah Sapul (TNC, Papua New Guinea)
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Abstract 4	Livelihood Strategies and gender dimensions in differentiating vulnerability to climate change impacts
Presenter	Dinanath Bhandari (Practical Action, Nepal)
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Gender and Climate Change
By Moushumi Chaudhry

Climate change affects men and women differently with regards to responses to the impacts of climate change. There has been very little research conducted, however, on understanding different adaptive strategies that can benefit men and women. The CGIAR Research Program on Climate Change, Agriculture, and Food Security (CCAFS) has investigated the potential of implementing adaptive strategies in a gender sensitive manner. Among these strategies is developing climate analogues where farmers are encouraged to visit sites that represent their future climates to learn about adaptive strategies. Another strategy is to provide climate information to farmers in the form of daily and seasonal forecasts so that farmers are able to make informed decisions on how to manage their crops. The extent to which these strategies could work, were tested in a joint initiative by CCAFS and the Food and Agriculture Organization in Bangladesh, Uganda, and Ghana. This paper will not only describe how using climate analogues and information could be important adaptive strategies, but also how the concept of climate analogues and information was communicated to farmers. This paper will share lessons learned on how to better implement these strategies in order for men and women to benefit from them equally.

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Making Women's Voices count: integrating gender issues in disaster risk management
Mette Frost Bertelsen

The East Asia region is highly prone to the impacts of natural disasters. Situated in the Ring of Fire, countries in the region are regularly hit by typhoons, earthquakes, floods, and other events. Natural disasters can have major impacts on the social and economic welfare of a population, and often pose serious obstacles in the achievement of sustainable social and economic development. Moreover, impacts from disasters are not uniformly distributed within a population and tend to disproportionately affect the poorest and most marginalized groups.

Women are at a particular risk. Women often experience higher rates of mortality, morbidity and post-disaster diminishment in their livelihoods. Several underlying factors exacerbate women's vulnerability to the impacts of disasters, such as lack of means to recoup lost assets, limited livelihood options, restricted access to

education and basic services, and in many cases, also socio-cultural norms.

There are costs in ignoring gender aspects in disaster recovery and risk management strategies. Failure to consider gender in Disaster Risk Management programs is likely to lead to overlooking the full range of damages and needs, which can hinder reconstruction, recovery and long-term development of countries that repeatedly suffer from disaster impacts. Research indicates that a gender-blind response to natural disasters can reinforce, perpetuate and increase existing gender inequality, making bad situations worse for women.

Grounded in extensive field work in Lao PDR and Vietnam, the World Bank has developed a series of Guidance Notes on Integrating Gender Issues in Disaster Risk Management (DRM). The notes address key issues and bottlenecks, related to addressing gender issues into DRM projects, and are designed to help task teams design and implement gender dimensions into DRM work across the East Asia and Pacific Region. The presentation will focus on the key findings and the recommendations to help mainstream Gender issues into DRM, especially at the community level. A second phase of the program, funded by the Australian Agency for International Development (AusAID), will pilot the recommendations in select countries across the region, including Vietnam.

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Communicating the women's voice: gender equity and women's participation in CBA in Melanesia
By Annisah Sapul

Traditionally, the primary role for women in Melanesian societies is to bear children and to ensure that there is food for the entire family. Our ancestors practiced this for many years. In our society this involves multiple tasks. A daily routine for the women typically includes fetching water, preparing breakfast, attending to the children, going to the gardens to bring back food or to the sea and mangroves to gather fish and shellfish for the evening meal.

Today, a woman's role is more than that! Women can see the impacts of climate change, as more variable weather patterns mean that food gardens are not producing quality crops, less rainfall has resulted in waterholes drying up, and the primary protein source –fish and shellfish - are increasingly scarce. Hence, as women are in the frontline to address these impacts, they must think of adaptable measures to keep food on the table, such as growing different crops or trees, and travelling large distances to find fish or shellfish. Women are the agents of change; they are already making adaptation plans, because they are the most responsible for their family's welfare. Women also tend to think about today and the future, their children and their grandchildren. Therefore their participation is important in addressing community-based adaptation issues that will threaten the delivery of basic needs and services, that women typically feel responsible for.

Traditionally men lead decision making in the local villages and culturally this is still a part of all Melanesian societies, so to meaningfully include women in discussions one must consider a participatory approach.

Two very important tools have been used in engaging women in two Melanesian societies (Boe Boe, Solomon Islands and Manus, Papua New Guinea). Firstly, Participatory mapping – referred to as Participatory 3-Dimensional Modelling, has enabled women to contribute with skills to developing the model, and then with adding of natural features to the model and telling their stories about their home and the impacts of issues including climate change. Secondly, conducting household interviews, has enabled women to identify their concerns regarding issues that are affecting their livelihoods.

These tools have captured the voices of the women, so often drowned by the traditional norms of society, and enabled them to better contribute to decision making for the good of their household and society.

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Livelihood strategies and gender dimensions in differentiating vulnerability to climate change impacts
By Dinanath Bhandari

There is broad consensus that women, indigenous and ethnic minorities are more vulnerable to climate change than men and ethnic majorities. This study tried to investigate whether gender and ethnicity or livelihood strategy is dominant factor to differentiate vulnerability to climate change impacts, particularly hazards and stresses associated with weather and climate. It also looked into what approach (livelihood or gender) would be appropriate to identify differentiated vulnerability to hazard stresses and disasters. It was also considered how vulnerability is factored if the livelihoods are determined by gender and ethnicity.

The study was carried out on families with different castes and ethnicity living in the rural and semi urban areas with different and same livelihood strategies (agriculture including livestock, paid jobs, small business and foreign employment). Family's major dependency or major contribution to the family income was considered as dominant livelihood strategy of the family. Role of men and women in different livelihood strategies were considered to assess the difference in vulnerability. The study was carried out in the communities where hazards and stresses were more or less the same for all the families under study.

Initial findings suggest that livelihood strategies of the families are dominant factors to differentiate vulnerability to the climate change impacts irrespective of their gender and ethnicity. Vulnerability of the families of the same caste and ethnicity were different if they had different livelihood strategies, and families from the different caste and ethnicity were similarly vulnerable if they had similar livelihoods. Vulnerability was possible to attribute to gender and ethnicity of the families if their livelihood means and practices were determined by their gender or ethnicity. It was because sensitivity of their livelihood strategies were different to weather and climate variability although they were exposed to the same environmental conditions. Gender and ethnicity based livelihood practices were found gradually changed in the studied communities such as people form one caste taking up roles of other castes. The livelihood strategies also factored exposure of the families to climate change impacts.

The study suggest that livelihood strategy is more useful to segregate disparity in vulnerability and devise appropriate approach to adaptation strategies in community based adaptation to climate change.

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SESSION 9

Session 9	Parallel session 9: Ecosystem-based approaches to adaptation
Chairs	**Hannah Reid (IIED) and Mozaharul Alam (UNEP)**
Abstract 1	Towards an Integrated Approach to Ecosystem and Community-based Adaptation
Presenters	Pascal Girot (CARE)
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Abstract 2	Community Forestry as an Adaptation Strategy
Presenter	Pete Newton (University of Michigan) and Gernot Brodnig (World Bank
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Abstract 3	Lakeside livelihoods and adaptation strategies in Ba Be National Park, Vietnam
Presenter	Robert Nurick (IDS)
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Abstract 4	Vulnerability of people and ecosystems to climate change in the Himalayan region of Bhutan - a case of Wangchuck Centennial Park (WCP)
Presenter	Phurba Lhendup (WWF Bhutan)
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Abstract 5	A participatory landscape approach to CBA planning
Presenter	Morten Fauerby Thomsen (CARE)
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Towards an Integrated Approach to Ecosystem and Community-based Adaptation
By Pascal Girot

This paper seeks to address ways to better integrate two approaches to adaptation which have been often seen as separate and even antagonistic, i.e. Community-based Adaptation (CbA) and Ecosystem-based Adaptation (EbA). It explores the two approaches from a practical perspective, aiming to improve understanding of their core principles and identify potential synergies between them. It argues for an interdependent, scaled approach that reconciles apparent differences between CBA and EBA. Towards this end, the paper provides a conceptual framework for such a symbiotic approach, which is applicable to all types and levels of climate change adaptation. It also underlines the need to focus on building resilience and promoting adaptation of natural systems by conserving and restoring ecosystems while at the same time assessing and addressing the differential vulnerabilities and adaptation needs of people whose livelihoods depend directly of the resources provided by these ecosystems. This reinforces the need for community based conservation and rural development efforts, thus providing livelihood opportunities that work to minimize new pressures on ecosystems and reduce existing ones in an effort to cope with advancing climate change

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Community Forestry as an Adaptation Strategy
By Gernot Brodnig and Pete Newton

While community forestry is increasingly being considered as an important contribution to the climate change mitigation agenda, its role in generating adaptation co-benefits has been less investigated. There is, however, mounting evidence that appropriate community approaches can have significant impacts on the adaptive capacity and resilience of forest communities. These opportunities range from improved environmental services to diversified economic livelihoods and improvements in social capital. This paper will explore these and other co-benefits by drawing on the data sets from the International Forestry Resources and Institutions (IFRI) network, which has documented environmental and socio-economic outcomes in over 250 community forestry sites in some 15 countries. The paper will focus on the enabling and constraining conditions that

shape these adaptation opportunities (and risks), with an emphasis on institutional factors, and propose a typology to provide policy guidance for adaptation planners and project implementers.

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Lakeside livelihoods and adaptation strategies in Ba Be National Park, Vietnam
By Robert Nurick

The establishment of Ba Be National Park in 1992 as part of the Government of Vietnam's goal of biodiversity conservation has resulted in significant institutional and environmental change for lakeside communities residing within the park. Households have adapted their livelihood strategies in response to: the prohibition of access and use of upland areas, the introduction of high yield varieties of maize and rice, and incentives to diversify into off-farm income earning activities.

Residents have experienced greater environmental hazards over recent years, in particular an increasing incidence and severity of flooding. This has been attributed to the extensive deforestation in upland areas around Ba Be Lake that continues in the hills immediately adjacent to the National Park. Flooding has destroyed crops and increased sedimentation and turbidity in Ba Be Lake, disrupting fish breeding cycles. Households have adapted livelihood strategies, altering cropping cycles and fishing strategies.

Overlaying the dynamics of environmental and institutional change, and livelihood adaptation strategies, is the additional layer of vulnerability resulting from local perceptions of climate change. Changing rainfall patterns and greater intensity of weather phenomena (drought, wind, cold and hail) have compounded the pressure on local people to adapt their livelihoods.

Biodiversity conservation in Ba Be National Park depends on successful adaptation to environmental and climate change by lakeside communities. The experience from Ba Be and the international evidence, points to the need for much greater involvement of the lakeside communities in decision-making and management of the national park and its natural resources. Whilst the principle of community involvement is reflected in recent legislation in Vietnam, much work is needed to develop appropriate and effective engagement strategies and representation of local people in management structures.

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Vulnerability of people and ecosystems to climate change in the Himalayan region of Bhutan - a case of Wangchuck Centennial Park (WCP)
By Phurba Lhendup, Eric Wikramanayake, Sarah Freeman, Nikolai Sindorf, Kinley Gyeltshen and Jessica Forrest

People, water resources and biodiversity are vulnerable to climate change in many Himalayan ecosystems. This report reviews the vulnerabilities in selected mountain ecosystems in Bhutan, presenting results of scientific studies and vulnerability assessments by WWF and partners that examined direct and indirect impacts of climate and their interaction with other stresses on socio-economic and ecological systems.
Specifically the focus is on a selection of case studies in Wangchuck Centennial Park, Bhutan, where a vulnerability assessment indicated risk to alpine habitat from forest intrusion, impacting alpine species, while forest-dwelling species such as tigers could benefit from habitat expansion. Community vulnerability is reviewed, including impacts on agriculture and pastoralism, and potential future impacts on water supplies.

Local communities' coping strategies and alternative livelihood development were reviewed, including specific challenges for some of the most vulnerable people and communities. Possible earlier and increased snow melt could have implications for hydroelectric projects planned downstream of WCP. Based on these vulnerabilities, several climate-integrated management recommendations are made at park and sub-river basin scale.

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A participatory landscape approach to CBA planning
By Morten Fauerby Thomsen and Nguyen Thi Yen

To address community vulnerabilities to climate variability and change a more integrated approach is often required that considers environmental services and their unique contribution to CBA, communicates this to communities and local government stakeholders, and also seeks to integrate adaptation plans into relevant government planning processes and thereby scale up CBA. This presentation will be based on experiences from Thanh Hoa province in Vietnam where a Visioning Approach has been used for participatory watershed planning. The visioning approach takes a landscape view in trying to address climate and environmental risks that affects communities in the watershed. It is participatory and involves all communities in the given landscape, and also helps them to understand how the problems they face are often inter-linked, which in the case of Thanh Hoa, instigated inter-village cooperation agreements between downstream and up-stream villages. The approach involves local government in the whole process, and watershed plans were subsequently integrated with local government plans and budgets. Based on the plans, specific activities in the watershed has included forest planting and enrichment, sloping agriculture techniques, improved water management, diversified livelihood options and, climate change and DRR capacity building.

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SESSION 11

Session 11	Parallel session 11: Vulnerable and indigenous communities
Chairs	**Harjeet Singh (ActionAid) and Shree Maharjan (Asia Indigenous Peoples Pact)**
Abstract 1	Climate risks, vulnerabilities and climate change adaptation practices in selected indigenous communities in Asia
Presenters	Yongyuth Surbthayat (Hmong Association, Thailand)
Email	SMILINGSIRI@GMAIL.COM; AIPPMAIL@AIPPNET.ORG
Abstract 2	Building resilience to climate change impacts for ethnic communities of Backan province base on their indigenous knowledge and experiences in agricultural production
Presenter	Le Thi Hoa Sen
Email	lethihoasen@gmail.com
Abstract 3	The use of information and communications technology for CBA in the Pacific: experience with tools that help plan and implement CBA at the local level, and communicate lessons and experiences between communities and amongst decision-makers
Presenter	William Tabuabe Atu (Nature Solomons)
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Abstract 4	Driving the interface through renewed climate change adaptation research: youths and indigenous knowledge systems in Malawi
Presenter	Maxwell Mkondiwa (Center for Agricultural Research and Development/Bunda College of Agriculture, Malawi)
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Abstract 5	Indigenous knowledge and practices in agriculture production of ethnic minorities adapted to climate change in Bac Kan province, Vietnam
Presenter	Tran Van Dien (Thai Nguyen University of Agriculture and Forestry)
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Abstract 6	Climate change adaptation by nomadic tribes in Iran
Presenter	Khadija Catherine Razavi (CENESTA, Iran)
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Climate risks, vulnerabilities and climate change adaptation practices in selected indigenous communities in Asia

By Yongyuth Surbthayat

Asia Indigenous Peoples Pact (AIPP) has conducted a participatory research with indigenous communities particularly among the Hmong, Karen, Khaching in Thailand, Kadazandusun in Malaysia, Ikalahan-Kalanguya in the Philippines and Haruku in Indonesia. The study focused on participatory assessment of the risks, vulnerabilities and impacts of climate change to the indigenous communities. It also analyzed the adaptation practices of the indigenous communities and their needs and priorities for long term climate change adaptation.

The climatic risks and hazards found in the study were irregular or unpredictable rainfall, prolonged droughts, extreme floods and landslides and high tidal waves among others. It showed that they are experiencing climatic uncertainty and unpredictability in their lives. They are observing direct impacts on their farming systems, including shifting cultivation practices, water sources, emergence of new invasive species and loss of species, decreased food production that has direct impact on change in livelihood options and income generating activities etc.

To deal with these impacts, they are devising adaptation methods and innovations using their traditional knowledge. These include mix-agriculture farming systems with drought resilient species like nuts, tubers, pineapple and flood tolerant species like gourds and sweet potatoes. They have also introduced both upland and lowland rice cultivation at the same time to reduce the risk of crop failure from drought or flood. Crop diversifications and cash cropping (e.g. mushroom farming) are also practiced as a means of adaptation within some indigenous communities in the research area.

Indigenous peoples since time immemorial have been adapting to the changes in their environment with their own knowledge, skills and resources in the most extreme conditions. However, with the severity, scale and magnitude of the adverse impacts of climate change, they are facing serious threats to their collective survival. They are now in critical condition especially in the disaster-prone areas. They require urgent intervention and support from their governments, development agencies and civil society organizations that is most appropriate in their context. Their critical needs are awareness raising, exchange of knowledge, skills and good practices among communities, and capacity-building for developing long term adaptation plans and integrating those plans into development plans by their respective governments. At the same time, they have valuable contributions to climate change adaptation in terms of their traditional knowledge and skills that the wider society can benefit from.

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Building resilience to climate change impacts for ethnic communities of Backan province base on their indigenous knowledge and experiences in agricultural production
Le thi Hoa Sen and ADC team

Backan province is located in the Northern region of Vietnam. The province is characterized by heterogeneous and fragile ecosystems, a high incidence of poverty, severe deforestation and soil degradation. It is made of about 8 major ethnic groups. These people are living in a rapidly changing environment, often harshly caused by the recent dramatic changes in climate. Indigenous people have inherent traditional knowledge and practices making them more resilience to extreme changes in their environment. However, due to lacking of specific policies for supporting ethnic communities to adapt to climate change together with the introduction of new technologies, indigenous knowledge have been gradually ignored. The project on s***upporting Ethnic Minority Communities in Back Kan province to develop agriculture production models based on indigenous knowledge and practices that are adapted to climate change*** funded by CARE international in Vietnam in 2011 successfully documented indigenous knowledge and experiences of ethnic communities in adapt to climate change in agricultural production and successfully identified production models that adapt to climate change. The project results showed that there were numerous forms of adaptation to climate change have been practicing by local people, based on their experiences and indigenous knowledge. Key lesson learned here is in order to improve local people resilience to climate change impacts, indigenous knowledge should be collected, verified, documented and shared widely among communities, practitioners, researchers, as well as provincial and national decision makers. To support most effectively the great efforts made by the local farmers in their adaptation, the willingness and commitment of the local authorities, of agriculture sector decision makers, with their relevant set of agriculture related policies actions, the government the non-government practitioners working in the area should be mobilized and enhanced.

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The use of information and communications technology for CBA in the Pacific: experience with tools that help plan and implement CBA at the local level, and communicate lessons and experiences between communities and amongst decision-makers.
By William Tabuabe Atu

Customary land owners of coastal Melanesia (including Papua New Guinea and Solomon Islands) face similar challenges from the impacts of climate change and climate variability. Communities share a close connection to traditional governance systems and tenure arrangements, whereby clan-based land ownership provides security of place and access. However, many communities are isolated and ill-informed as to the options and tools they can use to strengthen their resilience to change and development pressures, including climate impacts.

In Solomon Islands and Papua New Guinea, participatory planning tools that use information and communications technology (ICT), including participatory spatial mapping and 3D modeling, and participatory video, have been successfully employed to help people within communities to share their voice and opinions, and better understand the wider forces affecting their locality. A participatory 3D modeling activity in BoeBoe, Choiseul province, has highlighted the value of participatory tools in garnering collective voice and input into local level adaptation planning. Successful communication of the process and results has inspired neighbouring communities and similar efforts across the region. Participatory film-making has helped people in BoeBoe and other villages share their story within their community as well as to a wider audience.

At least one of these video products from Solomon Islands will be presented as shorts (2-3 minutes - http://www.youtube.com/watch?v=LOL2CdCfRts&feature=youtu.be) to illustrate the value of ICT in planning for community-based adaptation.

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Driving the Interface through Renewed Climate Change Adaptation Research: Youths and Indigenous Knowledge Systems in Malawi
By Maxwell Mkondiwa

Launched in 2006, the National Adaptation Programmes of Action (NAPA) prioritizes climate variability adaptation options in Malawi. However, it is evident from the priorities and subsequent programmes set that the role of Indigenous Knowledge Systems (IKS) and Youths is given little attention. This has resulted in misplaced research technologies and poor adoption of different useful climate change adaptation strategies. This paper thus aims at developing a framework through which climate change adaptation research prioritises indigenous knowledge systems and takes cognizance of the role of the youths. The study employs a systematic literature synthesis of research documents, related policies and programme documents to document the status of research on Climate Change Adaptation and Indigenous Knowledge Systems and the role of the youths in Malawi. Expert interviews with key researchers in the fields of climate change and environment and IK holders (experienced farmers) were also conducted.

The study has revealed that most research work on climate change adaptation options in Malawi focus more on technologies advanced from science; with no particular regard for indigenous methods of adaptation which if supported can reduce poor people's vulnerability to the impact of climate change. In addition, the youths have not been actively involved in climate change research and adaptation work. The paper therefore proposes a framework through which IKS and youth involvement can be prioritized in climate change adaptation work.

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Indigenous knowledge and practices in agriculture production of ethnic minorities adapted to climate change in Bac Kan province, Vietnam

By Tran Van Dien

Indigenous knowledge and practices were investigated in the local communities that have been severely affected by the impacts of climate change in recent years in Bac Kan province. The manifestation and impact of climate change to agricultural production and livelihood of local people were identified and clarified in this area. Indigenous knowledge and practices in prediction, response and adaptation to extreme weather phenomena and climate change for agricultural production of the local communities were clarified and documented. Findings from the study showed that ethnic minority groups in the research area have a lot of indigenous knowledge and practices in agriculture production copping with extreme weather phenomena and climate change. Various local cultivars which are resistant to drought and cold are used by local ethnic minorities such as banana (Tay variety), rice (Bao Thai), mungbean (moc), local ginger cultivar and potato. Therefore banana, potato, ginger and mungbean are recommended for farmers in the Bac Kan province to grow as crops adapting to climate change. Many traditional practices in agriculture production coping with drought and cold conditions were also investigated such as indigenous practices in banana cultivation on sloping land; appropriate arrangement of the crop growing season in accordance with climate change conditions; weather forecast based on symptoms of natural condition etc. The study also reviewed agricultural policies relating to climate change at all levels and found that there was a big gap between current government policy with real problems occurred in the field due to climate change.

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Climate change adaptation and resilience by nomadic tribes in Iran
By M Taghi Farvar, Khadija Catherine Razavi and Mahmoud Bahadori (CENESTA)

Iran has some 700 nomadic tribes who have adapted to climate change over the past 12,000 years. They practice seasonal migration for three main reasons:

- to protect nature from sedentary grazing;
- to avoid internal conflict over diminishing seasonal availability of resources, and
- to avoid destructive extremes of climatic conditions by alternating seasonally between high and low altitudes.

While droughts and other climatic changes have been a recurring rule, the frequency and severity of these phenomena have increased beyond living memory.
Recent changes affecting nomadic tribes include droughts, floods, severe melting of glaciers and permanent highland snow, to serious reduction in ground and surface water and loss of livestock.
Some of the main strategies being elaborated by these nomadic tribes for coping with the consequences of climate change include:

- Inventive learning and use of crops among otherwise nearly pure pastoralist tribes (e.g., Abolhassani in Touran region), where each crop (pistachios, cotton, fodder barley, etc.), in addition to providing alternative livelihoods, strategically provides fodder to supplement pasture from the rangelands in order to reduce the pressure of livestock on the diminished grazing resources, often in conjunction with water harvesting techniques. In some appropriate environments cash crops and agro-silvo-pastoral adaptation is now a regular pattern (e.g., apple orchards in Semirom region;
- Managing migration patterns, including dates, length of time and itinerary of migration (e.g., Qashqai, Bakhtiari and others);
- Reviving ancestral techniques of indigenous early warning systems (Torkashvand, and many others);
- Using indigenous knowledge for monitoring and assessing the carrying capacity of rangelands before the season of migration (e.g., Bahmaie);
- Taking marketing decisions such as selling off animals while in their summering grounds in function of predicted climatic conditions in the next season; this avoids taking steep losses on livestock prices (Qashqai and others);
- Changing livestock breeds to more drought resistant ones, and bringing back the indigenous breeds when conditions improve (Sangsari, Fars);

- Managing glaciers and formerly permanent snow fields by covering them with plant debris (Kopet Dag), and tapping into the melting glaciers by piping water for livestock watering points (Kelardasht);

This article will attempt to make conclusions and recommendations to facilitate learning from these experiences and sharing of the lessons, including from some sedentary communities.

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SESSION 12

Session 12	Parallel session 12: Economics of CBA
Chairs	**Rodney Witman Lunduka (IIED)**
Abstract 1	Unlocking the power of local knowledge to cost climate change adaptation: a novel framework for costing community based adaptation
Presenters	Abrar Chaudhury (University of Oxford, UK)
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Abstract 2	Multiple stakeholders' economic analysis in Climate change adaptation Case study of Lake Chilwa Catchment in Malawi
Presenter	Rodney Witman Lunduka (IIED)
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Abstract 3	Economics of climate change adaptation: case study of Rupa Lake watershed in Nepal
Presenter	Arjun Dhakal (ISET Nepal)
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Abstract 4	Insuring community based resilience?
Presenter	Margaret Arnold (World Bank)
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Abstract 5	Implications of climate change for economic growth and development in Vietnam
Presenter	Vu Xuan Nguyet Hong (Central Institute for Economic Management, Viet Nam)
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Abstract 6	Climate resilient handloom factory: an adaptation initiative of weaver community in climate disturbed Bangladesh
Presenter	A M Nasir Uddin (ActionAid, Bangladesh)
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Unlocking the Power of Local Knowledge to Cost Climate Change Adaptation
A Novel Framework for Costing Community Based Adaptation
By Abrar Chaudhury

Adaptation to climate change has become a key theme in the strategy, planning and policy of global institutions, governments and NGOs across the world. Costing adaptation is a complex process involving multiple actors with differing value systems and a spectrum of possible adaptation strategies and pathways. Current top-down costing approaches can lead to misallocation, with global funds not always reaching where they are most needed by vulnerable communities. This paper introduces a new analytical costing framework called Participatory Social Return on Investment (PSROI). PSROI provides a structured framework for multi-stakeholder adaptation planning, and the subsequent selection and valuation of appropriate adaptation strategies. The broader social, economic and ecological impacts of these interventions are explored and valued in participatory processes. The approach taken is strength-based, building local capacity and generating stakeholder buy-in. The financial valuation which PSROI can generate provides communities with an additional tool for examining and prioritising adaptation actions, and provides policy makers with valuable local contextual information to direct funding to initiatives identified and valued by local communities. This PSROI framework has been successfully applied in subsistence farming communities in East and West Africa. It's appropriateness, robustness and transferability has been tested through application in multiple, varied contexts.

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Multiple stakeholders' economic analysis in Climate change adaptation. Case study of Lake Chilwa Catchment in Malawi
By Rodney Witman Lunduka

Lake Chilwa basin is a very important catchment that is providing livelihoods to more than 77,000 people living in the wetland. The basin is endowed with a number of resources ranging from fish, birds building materials (for houses and boats, mats, fish traps, bird's traps and baskets). Water is used for irrigation, transport and domestic purposes. Therefore, there are different stakeholders utilizing and managing the catchment. These have also different objectives that are conflicting to each other. Due to increased drought incidences as a result of climate change, irrigation is being promoted where more land is being cleared in the catchment and water diverted from river flowing into the lake. This has increase soil erosion causing siltation in the lake there by reducing fish population and also reducing water flowing into the lake hence contributing to lowering of lake levels. A multi-stakeholder analysis was conducted in the catchment to evaluate the economics of climate change adaptation. Results show that irrigation objectives of increasing rice and maze output are reducing fish population and hence affecting fishing communities along the lake. To adapt to falling lake levels and fish stocks in Lake Chilwa, fishermen have begun hunting birds and doing craftwork with lake reeds to supplement their incomes. Exploitation of these natural resources puts pressure on the lake's ecosystem services and biodiversity. Therefore, planning for adaptation of climate change in this catchment area would need through assessment of all actors' needs, livelihood strategies and environmental and policy issues, with the involvement of all the user groups, to ensure that the plans, are inclusive of all stakeholders interests.

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Economics of Climate Change Adaptation: Case Study of Rupa Lake Watershed in Nepal
By Arjun Dhakal

Livelihoods of a watershed people are highly interlinked. If the climate change effect appears in the watershed, it affects the whole livelihood system of the people of that area. Hence, costs and benefits of any adaptation interventions are also common among the stakeholders. This study analyses the issues of adaptation in Rupa watershed, identifies potential needs and benefits including mechanism for sharing of cost and benefits among different stakeholders using the stakeholders focused approach (SFA). Livelihoods of the residents of this watershed area are based on agriculture, which is likely to suffer from extreme weather condition of heavy rainfall, landslide, and increased siltation. Besides that downstream communities of the lake are also earning from fisheries in the lake through local cooperatives and also sharing the benefits to the upstream communities of the lake. This paper also analyses the monetized and non-monetized cost and benefits of adaptation during extreme weather condition and recommendation for project specific investment/cost sharing and responsibility. It also analyses the social, economic and ecological impacts of these adaptation measures. Beyond financing, this also provides the guidelines to the local level planning and overall watershed level management tool for examining and prioritizing adaptation actions.

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Insuring community based resilience?
Margaret Arnold

With the promise of strengthening the resilience of the poor, index insurance and other market-based risk financing mechanisms have received a great deal of attention for their potential role in supporting community level adaptation to climate change. With little access to formal insurance mechanisms, poor households make

use of other consumption-smoothing and risk management strategies such as taking out high-interest loans or defaulting on existing loans, selling assets and livestock, or engaging in low-risk, low-yield farming to lessen their exposure to extreme events. These sub-optimal coping strategies often leave poor households locked into the poverty cycle. Community support measures can break down in times of disaster, which affect entire communities. Reliance on government or donor assistance is often inadequate, as this support can be ad hoc, poorly targeted, and slow in disbursing. Insurance and other market-based risk financing instruments may help to break this cycle by providing low-income households, farmers, and businesses with rapid access to post-disaster liquidity, thus protecting their livelihoods and providing for recovery.

Market-based risk financing instruments, such as index insurance, promises to help reduce poverty and build climate resilience by: (i) enabling productive investment; (ii) protecting the livelihoods and assets of the poor; and (iii) promoting investment in risk reduction. Yet there are still significant unanswered questions about balancing affordability and utility for households struggling to meet daily needs and maintaining the long-term viability of these programs especially in the face of increasing losses due to climate and disaster risks. This presentation will describe an ongoing initiative to evaluate experience to date with market-based risk financing instruments that aim to target poor households in support of CBA. Case studies include Ethiopia, India, Mexico, and Mongolia.

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Implications of Climate Change for Economic Growth and Development in Vietnam:
By Vu Xuan Nguyet Hong

Like many countries, Vietnam is concerned about the potential implications of climate change for economic growth and development. This paper presents a highly comprehensive analysis of climate change impacts for Vietnam. The paper focuses on implications for economic growth and development out to 2050. Three elements of the analysis merit special mention. First, a bottom-up structural approach is employed. The analysis relies upon a series of structural models that link climate outcomes to biophysical and eventually economic outcomes. Second, relative to most impact analyses, the approach is highly comprehensive incorporating six important impact channels: crop yields, irrigation water availability, hydropower production, road infrastructure, sea level rise, and cyclone strikes. Finally, the analysis incorporates climate projections from 56 General Circulation Model (GCM) runs employed for the Fourth Assessment Report of the IPCC. The combination of these three elements is unique and affords a very detailed examination of the implications of climate change for Vietnam.

Going out to 2050, the paper comes up with the following effects on climate are observed: temperature rises by about 1-2 degrees centigrade; there are relatively mild effects on precipitation with a slight tendency towards a decrease and relatively mild effects on evapo-transpiration. The combination of a light decrease in rainfall and increase in evapo-transpiration leads to a mild "drying" of a wet climate. Changes in runoff are also mild and about as likely positive as negative (median slightly negative). These changes are typically not sufficient to generate large declines in agricultural production nor are they projected to generate (in most instances) very large increases in events, such as inland flooding, that would threaten infrastructure. In addition, hydropower production tends to be negatively affected but the effects are not so large as to serve as a major brake on economic growth.

In addition, sea level rise delivers some of the largest effects, especially when the level is high and when sea level rise is combined with cyclone strike. The Mekong river delta is particularly vulnerable with significant shares submerged in 2050 under the high sea level rise scenario. Overall, climate change worsens the economic growth prospects of Vietnam out to 2050. Nevertheless, in a macroeconomic sense, the effects, out to about 2040, are not particularly large. Other factors are likely to be more important determinants of growth rates over at least the next few decades.

As the net present value numbers indicate, the effects of climate change are appreciable and adaptation policies are merited. This adaptation agenda includes:

- investment in information systems to monitor climate change impacts including improved geographic information systems with emphasis on elevation data for low lying provinces, river flow, and close following of global sea level rise projections;
- development of heat resistant crop varieties;
- improved efficiency of water use; and
- changes in design standards for infrastructure such as roads to handle a warmer and more variable climate.

The most serious policy choices concern the implications of sea level rise combined with cyclone strike. There are essentially two pro-active options. First, the government of Vietnam could channel economic activity in an evolutionary fashion towards higher ground. Second, the government could invest in protective infrastructure. These are not mutually exclusive options and decisions in response to climate change do not need to be made immediately. Nevertheless, while more study is required, the available evidence indicates that a gradual channelling of activity to higher ground is more likely to be economically efficient and is certainly less risky. A major detractor to protective infrastructure investments is that they raise the stakes. Both the costs of protective coastal infrastructure and the capital that will inevitably be placed in the shadow of that protection are vulnerable to cyclone strike of sufficient magnitude. Hence, with a protective strategy, there is always the possibility that one will lose a great deal alongside the certain costs of building the protective infrastructure. For the gradual evolution strategy to in fact be gradual and hence efficient, the channelling of economic activity to higher ground should probably begin soon, certainly within the next ten years or so, especially if the upper ends of sea level rise projections are being realized.

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Climate resilient handloom factory: an adaptation initiative of weaver community in climate disturbed Bangladesh
By A M Nasir Uddin

Weaver community is one of the major occupational populations of Bangladesh. One million weavers (50% female) are using their creative skills in more than 0.30 million active handlooms to produce 63% of total fabric production, meeting 40% of local fabric demand. Another half a million people are indirectly engaged in this industry. It contributes more than 10 billion taka every year.
Most of these weaving industries developed in highly disaster prone areas. Erratic and intensified disasters like flood, heavy fog and draught like situation compel handloom factories to remain closed for around four months a year. To meet this loss some able owners are converting their handlooms into power looms. This trend contributes to increase carbon emission, owing to fuel based electricity production and consumption; and job cut for wage weavers as it is less labor intensive. On the other hand, increasing lean periods are pushing poor weavers out of this labor intensive and eco-friendly industry and induce migration.
Poor weavers in Sirajganj came up with an innovative architectural solution to keep the handloom sector functional round the year. Simultaneously it is low-cost, user-friendly and replicable. This presents a low carbon development path and thereby livelihood security of climate vulnerable communities.

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SESSION 14

Session 14	Plenary session 14: Agriculture
Chair	**Selvaraju Ramasamy (FAO)**
Abstract 1	Rural livelihood diversification and adaptation to climate change
Presenters	Terry Cannon (IDS)
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Abstract 2	Potential commune based technical options to respond to climate change in Vietnamese Agriculture
Presenters	Pham Quang Ha, Nguyen Van Bo (Institute for Agricultural Environment)
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Abstract 3	Community-based rice seed production and supply: an approach for climatic change adaptation in the Northern mountainous region of Vietnam
Presenter	- Le Quoc Doanh and Pham Thi Sen (Northern Mountainous Agriculture and Forestry Science Institute, Viet Nam)
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Abstract 4	Strengthening Adaptation to Climate Change in Viet Nam's Agriculture and Rural Development Sector: Making IFAD's Country Strategy for Viet Nam Climate Smart
Presenter	Roshan Cooke (IFAD) and Triệu Văn Hùng (Department of Science Technology and Environment, MARD)
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Abstract 5	Community based coping mechanisms and adaptations to droughts in the Borana Pastoral Area of Southern Ethiopia
Presenter	Dejene Negassa Debsu (Oxfam)
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Rural livelihood diversification and adaptation to climate change
Terry Cannon, IDS

A significant share of the thinking and ideas on adaptation for the rural economy (including in Community Based Adaptation – CBA) is defined in the context of continued (adapted) agriculture. Ideas are framed around different varieties of crops (temperature, drought, saline tolerant) and cropping systems. Little attention is paid to the problem (especially in much of South Asia) to the land tenure systems and power structures that determine access to land (and water). As a result, there is a potential serious gap in understanding whether existing systems are viable (in terms of access to land, continuing livelihoods, current indebtedness, landlessness – the usual problems of rural poverty and development, some of which lead to distress migration) even without the context of climate change. It calls into question the validity (and fairness) of pretending to assist the adaptation of rural economies that are already in crisis.

There are two potential alternative approaches that need to be explored. First is whether rural livelihoods can be diversified sufficiently to enable adaptation *in situ* (i.e. within the rural economy) through the diversification of crops and extension to non-farming livelihoods. The second is the need to recognise that in some locations and circumstances, rural agriculture and its livelihoods may become impossible, requiring retreat or abandonment of some areas. This requires exploration of ideas of supported migration, in which adaptation investments are made into support for new livelihoods (available both for the migrants and host communities, for example in small and medium size towns). This chapter focuses on the first of these issues (although acknowledging that it may need to be linked to the second). In particular it explores the existing knowledge on the rural non-farm economy (RNFE – also labelled the off-farm economy, income generating activities) as a way to reduce climate dependency of significant numbers of (especially poor) rural people. It

will also need to examine the potential for alternative organisational systems for access to land, the use of different forms of employment (e.g. to deal with the needs of landless peasants). This will be assessed and analysed generically, but with reference to the context of Bangladesh and South Asia generally.

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Potential commune based technical options to respond to climate change in Vietnamese Agriculture
By Pham Quang Ha, Nguyen Van Bo

Agriculture plays a very important role in Vietnam economy with more than 70% engaged population and 20-24% in GDP. Signs of climate change affected agriculture production and farmer's income have been identified not only by scientists but by both local authorities and farmers. As part of commune based solution to adaptation and mitigation response to climate change, there are a list of promising options we may consider in crops productions such as integrated pest management (IPM); integrated cropping management (ICM); System Rice Intensification (SRI) and relative techniques; minimum tillage; upland soil erosion control; re-use crop residues; mix cropping in crop production and livestock sectors such as biogas and animal food and breeding. This paper reported an overview and survey study on farmer community based experiences options in Vietnam to respond to climate change. These options have not only a sustainable meaning in agricultural productivity but also contribute to mitigate climate change Vietnam. There is a great potential for scaling up those technique and extension capacity of the potential technical options can be based on participatory and community approach in function of each local condition accoding to agro-ecological region of Vietnam.

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Community-based rice seed production and supply: an approach for climatic change adaptation in the Northern mountainous region of Vietnam
By Le Quoc Doanh and Pham Thi Sen

The agriculture of Vietnam in general and of its northern mountainous region (NMR) in particular, is facing increasing risks of climate impacts. More frequent and unpredictable occurrence of droughts, typhoons and floods causes low and instability of crops' yields. In this context, with supports from FAO, especially under the project UNJP/VIE/037/UNJ entitled "Strengthening Capacities to Enhance Coordinated and Integrated Disaster Risk Reduction Actions and Adaptation to Climate Change in Agriculture in the Northern Mountain Regions of Viet Nam", Northern Mountainous Agriculture and Forestry Science Institute (NOMAFSI) has facilitated a community-based rice seed production and supply system in the NMR.

The findings of the baseline study revealed that farming communities currently depend on external suppliers for rice seeds, and thus often face problems caused by poor seed quality and untimely seed supply, exspecially when extra volumes are required for restoring production after natural disasters. The study findings also show that there are valuable traditional agricultural practices for recovering crop production after disasters and for adapting to climate change, among them use of diverse pureline rice varieties with good adaptability to local growth conditions and the practice of on-farm production, storage and distribution of rice seeds.

Thus, in order to promote the CBA in agriculture, NOMAFSI has developed advanced technology for on-farm rice seed production and supply using RICM (rice integrated crop management). Together with field demonstrations, trainings were organized for over 500 farmers in 12 communes of Phu Tho, Lao Cai, Yen Bai, Cao Bang, Dien Bien, Bac Kan and Ha Giang provinces. In each of these communes, a farmers' rice seed group consisting of around 20 members was formed. With technical supports from NOMAFSI scientists and FAO consultant some of the farmers' groups sucessfully developed adequate management and functioning rules. Their capacity in various aspects, namely quality rice production and storage, access to production inputs, marketing and developing linkage with formal crop seed suppliers, planning and making decissions, has also been developed. Consequently, with good will and commitment of farmers, strong supports from local authorities, technical assistance from scientists, and collaboration from formal seed suppliers, models of community - based rice seed production and supply have been developed and are now fruitfully contributing to close the gap in rice seed supply in some communes.

This presentation briefs the attempts to develop sustainable functioning community-based rice seed production and supply as an option for CCA in the northern mountainous region of Vietnam.

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Strengthening Adaptation to CC in Viet Nam's Agriculture and Rural Development Sector
Making IFAD's Country Strategy for Viet Nam Climate Smart
By Roshan Cooke and Triệu Văn Hùng

Overview: due to high population concentrations in the Mekong and Red River Deltas, the IPCC 4th Assessment characterized Vietnam as a "hotspot of key future climate impacts and vulnerabilities in Asia". Agriculture has made a central contribution to Viet Nam's economic transformation into an emerging market economy of lower middle-income country status, with rising productivity contributing to improved rural incomes, labour release to the non-agriculture sector and export growth. Despite these economic shifts, however, 70% of the population continue to live in rural areas and derive their livelihood from agriculture, which remains an important source of job creation for the large rural labour force. Climate change threatens these hard fought gains and in particular the chances of the poorest to escape and remain out of poverty. Adaptation to CC is a relatively new area for the International Fund for Agricultural Development (IFAD) in Viet Nam, and as such a concerted effort was needed to make IFAD's US$120 million Country Strategic Opportunities Program (COSOP) 2012 – 2017 for Viet Nam "climate smart".

***Methods*:** Over the past year, through work undertaken in partnership with the CC Adaptation and Disaster Management Unit of Kyoto University under the aegis of the Ministry of Agriculture and Rural Development (MARD) with key national research institutes working on CC and environment related issues, NGOs, ministry of environment and bilateral and multilateral donors and through field visits and work with communities, in depth analysis of CC impacts on the ARD sector was undertaken and possible areas of intervention were identified.

***Results*:** an important innovation in the COSOP is the inclusion of CC risks in the implementation of the IFAD-supported country programme. The following 3 Strategic Objectives were defined:

1. Accelerate the transition in the rural sector toward sustainable market led development in poor provinces and associated regions;
2. Substantially improve poor rural women's income from commodity and labour markets;
3. Enhance the resilience of poor rural households' natural resource and economic asset bases to CC.

A pipeline of 4 projects was developed worth approximately US$120 million with 3 of them pursuing different aspects of adaptation and 1 of them specifically addressing adaptation issues in the Mekong Delta (to be financed from IFAD's Adaptation Programme for Smallholder Farmers – ASAP). Of importance also is the strengthening of MARDs Office for Climate Change Adaptation and Mitigation (OCCA) for undertaking the

following:

(i) Foster an effective policy dialogue mechanism on climate change in agriculture and rural development among technical departments within MARD and MARD's Leaders; provincial authorities and MARD technical departments/Leaders (policy making bodies); NGOs and research institutes and MARD's technical departments (policy-making bodies); and MARD and international community (development partners); and

(ii) Review MARD's key climate change documents, particularly, the Ministry's Action Plan for Climate Change and the key policy options, strategies, its financing mechanisms for implementation, including public and external financial support and identify focus areas of action as well as prioritized projects.

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Community Based Coping Mechanisms and Adaptations to Droughts in the Borana Pastoral Area of Southern Ethiopia
By Dejene Negassa Debsu

This paper is based on the field research conducted in the Borana area of Southern Ethiopia during April to June 2011 and addresses interactions between droughts, pastoralism, and indigenous institutions. The research looked at the role that local institutions play in helping communities manage climate variability, particularly drought, and the way external interventions interact with local institutions to build adaptive capacity. The Borana live in one of drought prone areas of the country and they combine pastoralism with farming for their subsistence. The research methodology consisted of a literature review as well as participatory field research, focus group meetings, in-depth interviews and life histories. Key findings of the research show that: (1) There are both perceived and observed climate variability in the study area (2) external interventions affect local institutions in a complex way, by strengthening some coping mechanisms and adaptations and weakening others (3) and new adaptations are taking place in pastoral areas some of them through external interventions and others through local innovations. In general, while indigenous institutions play a crucial role in climate change adaptation, more collaboration between relevant stakeholders and the local people is needed to enhance their adaptive capacity.

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SESSION 15

Session 15	**Plenary session 15: Disaster risk reduction**
Chairs	**Dang Quang Minh (Disaster Management Centre) and Jennifer Sara (World Bank)**
Abstract 1	Enhancing Community Adaptive Capacity through Innovative Capacity Strengthening on Climate-smart Disaster Risk Reduction
Presenters	Bruce Ravesloot (CARE)
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Abstract 2	Mozambican Government action towards interventions that support CBA
Presenter	Dulce Chilundo (National Centre of Operations – INGC)
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Abstract 3	Opportunities and challenges in formulating policies for community-based climate change adaptation in Vietnam
Presenter	Luong Quang Huy (Ministry of Natural Resources and Environment & Standing Office of the National Target Programme to Respond to Climate Change, Viet Nam)
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Abstract 4	An assessment of the disaster preparedness of Vietnamese small and medium enterprises
Presenter	Thanh Nguyen Tri (The Asia Foundation)
Email	**ntrithanh@asiafound.org**
Abstract 5	Community based disaster management in Vietnam - the lessons learnt
Presenter	Dang Quang Minh (Disaster Management Centre)
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Enhancing Community Adaptive Capacity through Innovative Capacity Strengthening on Climate-smart Disaster Risk Reduction
By Bruce Ravesloot

Despite significant investment in disaster risk reduction in many countries in Asia and the Pacific, there remain many challenges in developing community resilience to disasters and increasing community adaptive capacity to longer term climatic change. In many countries, poor linkages between institutional arrangements persist. Roles and responsibilities between national and local government, within local government, and between local government and communities are not clear. Moreover, the many different approaches used by local level actors and the lack of standard operating procedures are confusing and make it frustrating for local government officials to engage. The lack of clear models for multi-sectoral partnership has resulted in a low level of awareness and common understanding of concepts, and often leaves local officials, community leaders and volunteers unclear as to what their roles and responsibilities should be in tailoring disaster and local adaptation plans to the differential needs of vulnerable communities and households. In most cases preparedness and response strategies as well as local development policies do not yet include a focus on climate change impacts, and most DRR interventions are by design not resilient to climate change.

Capacity development of local response actors to address these challenges is severely hindered by the lack of quality technical and capacity building material in the local language. This prevents access to essential information and experience at the local government and community practitioner levels where English-language skills are limited. Furthermore, translation is only a first step. The resources must be reviewed by national stakeholders at all levels and adapted into appropriate training material and tools. To meet the current lack in culturally and linguistically appropriate, comprehensive and coherent climate-smart DRR materials, CARE International developed an innovative regional capacity building program on climate-smart DRR1. This program applies an innovative combination of low-bandwidth e-learning modules with face-to-face scenario-based training, with follow up support for development of key materials in local languages. This process, which started in 2009, currently covers 14 countries in Asia and the Pacific, and has established cross-learning with CARE programs in East Africa and Latin America. The program has already secured funding for expansion with key humanitarian and development partners in the region up till 2013. The presentation at

CBA6 will focus on successes, challenges and key lessons learned that will allow session participants to apply and improve on the CARE innovations for local capacity development, and scale out CARE's current efforts.

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Mozambican Government toward Interventions that supports CBA
By Dulce Chilundo

Over 80% of the Mozambique's population depends on small-scale, rain-fed agriculture; the best soils are located in the country's extensive network of low-lying floodplain – Mozambique is subject to frequent periods of droughts, particularly in the internal southern and central regions, while cyclones regularly strike coastal districts in the summer. In 2000 widespread flooding in southern regions of the country resulted in 700 deaths, 491,000 displaced people and million dollars worth of damage.

The National Institute for Disaster Management was the initial response of the Mozambique Governmt to mitigate the vulnerability of direct affected people by climate extremes. The uncertainty that comes with Climate Change request that INGC efforts goes beyond the Humanitarian Response and the presentation will cover the Interventions under INGC leadership that improves communities capacity to respond to Climate variation and changes.

The presentation will cover:

- INGC role as a national coordinator, pooling together the Government Institutions, INGOs and donors; to ensure timely and effective response to natural disasters trough CENOE (National Centre of Operation). This is including the development of community committee for disaster management.
- The INGC responsibility to develop intervention that interact straight with communities providing new ways to provide income generation, based on the local knowledge and skills and making use of the best natural resources management possible.
- The INGC commitment to partner with organization do implement research at community level to better understand adaptive capacity and to be able to develop process and tools to ensure that national and local level planning process will take in consideration the need to create a positive environment based on the adaptive capacity – ACCRA has been one of the INGC partners focused on support informed decision making and planning.

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Opportunities and challenges in formulating policies for community-based climate change adaptation in Vietnam
By Luong Quang Huy

Vietnam is globally recognized as one of the most disaster-prone countries in the world. Climate change has amplified and altered the frequency and magnitude of extreme events throughout the country, making it is highly vulnerable to both disasters and climate change impacts. The Government of Vietnam has adopted community-based disaster risk management into its socio-economic development plan. Climate change adaptation, however, remains a challenge to deal with from central to local levels.

The paper discusses opportunities and challenges in formulating policies for community-based climate change adaptation in Vietnam from the perspectives of not only scientists and policy makers but also from

communities. The paper uses findings from various studies throughout the country to explicit the implications of adopting community based climate change adaptation, from planning to implementation processes. The paper then explores the opportunities to formulate effective policies to support community-based adaptation for some major economic sectors and regions in Vietnam as well as the challenges it would impose on the process of implementing adaptation measures at grass-root level. The need of capacity building and further research to support the evolvement of policies through the years to come is also analysed and discussed.

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An assessment of the disaster preparedness of Vietnamese small and medium enterprises
By Thanh Nguyen Tri

Vietnam suffers every year from many types of natural disasters, most notably from floods and storms, with average annual loss estimated up to 1.5% GDP. The country is considered to be one of the most impacted by climate change, and natural disasters are increasingly more intense, frequent and unpredictable which pose greater risks to people, communities, and businesses.

Over the past few years, there has been a substantial increase in new initiatives in Vietnam focusing on local capacity building and community-based response to disasters. Such efforts, however, have not effectively engaged local businesses in disaster preparedness and response, whether as an integral part of community resilience or as a key resource for disaster relief. Given that community resilience depends greatly on the ability of the private sector to bounce back, re-establish production and continue to provide employment to local workers in the aftermath of disasters, business disaster preparedness and response is critical. Most small and medium enterprises (SMEs), however, do not have adequate information or contingency plans for risks associated with natural disasters.

There is currently no program or project on disaster risk management (DRM) for businesses in Vietnam. In response, with funding from the Unites States Agency for International Development (USAID), The Asia Foundation (TAF) is partnering with Vietnam Chamber of Commerce and Industry (VCCI) and the Center for Education and Development (CED) to carry out a DRM assessment of SMEs from May 15th to June 4th 2011 in the three provinces of Nghe An, Da Nang and Khanh Hoa. The main objective was to capture strengths, weaknesses and challenges for SMEs in DRM, determine the training necessary to improve internal governance and capacity of SMEs in DRM, and identify training beneficiaries. Key findings of the assessment are highlighted below.

The business DRM assessment
The assessment contained data drawn from the responses of 191 SMEs in the three project provinces to a mail-out survey, and in-depth interviews with 82 business representatives of 51 SMEs, as well as key staff of provincial business associations and VCCI provincial branches. Additional meetings were held with 16 local organizations, including the Central and Provincial Centers for Flood and Storm Control, the Red Cross, insurance companies, and social banks.

The assessment contains three main parts:

1. Risks faced by SMEs in selected flood and storm affected areas: the survey assessed the type of disasters that frequently cause damage to businesses and the different types and causes of damage to businesses such as the interruption to supply of materials and the disruption of production among others.
2. The status of DRM in SMEs: the survey assessed the organizational structure, personnel, knowledge and understanding of DRM and DRM-related government regulations for businesses, mechanisms for sharing DRM information within and outside the enterprise, and experience in the mitigation of natural disasters.
3. DRM training needs.

Losses caused by natural disasters

The assessment indicated that many businesses incurred losses caused by natural disasters, of which storm and floods are the most frequent. Almost 85% of businesses reported being frequently hit by seasonal storms, 45% by floods, and some 12% by cyclones and high tide. The three provinces faced difference types of disasters: in Da Nang, all businesses had been affected by storms, and 50% had been impacted by floods; in Khanh Hoa, half were affected by storms and half by floods; in Nghe An, 95% were impacted by storms but only 29% by floods and 26% by cyclones and high tide.

The mail-out survey showed that more than 60% of businesses had incurred losses caused by natural disasters in the last five years. Of those who suffered losses, 5% of the businesses experienced such significant damage that the business operations they had before the disaster were no longer viable and forced them to start a new business; 30% indicated heavy losses with facilities and products damaged, business operations affected for a significant period; 43% noted only slight losses; and 22% referred to losses incurred as insignificant.

The in-depth interviews further clarified the different kinds of damage suffered by businesses: 52% lost physical structures including office buildings and factories; 47% identified losses of products; and 41% noted losses of equipments. These figures show that businesses are badly impacted by natural disasters, and their most important assets from physical structures such as office buildings and factories, products and equipments are very vulnerable. There are differences in the level of losses identified by businesses in the three project provinces however, with Da Nang and Nghe An were much more affected than Khanh Hoa. Almost 60% of businesses interviewed in Da Nang and Nghe An indicated that they suffered excessive and heavy losses, while all businesses in Khanh Hoa described their losses as insignificant.

Level of business disaster preparedness

Essential services for business production

The frequency of annual flood and storms underscored the dependency on services provided by other suppliers which greatly impact the ability for businesses in the three provinces to maintain operations in times of natural disasters. Most of these businesses are reliant on electric, roads, water drainage system, and sanitation services provided by other agencies and companies. The assessment identified that 84% of businesses use inter-province road systems, 75% use inner provincial road systems; 24% business use railways, 45% use waterways and only 4% use airlines. All businesses are dependent on the electric grid for their office activities and 76% for their production. All businesses access the communication networks for telephones, faxes and internet connection for their operations (telephone, fax and internet). Most of the businesses are dependent on the drainage system of the provinces, 92% rely on tap water, and 69% depend on local water supplier for their production. This tremendous reliance on government services for businesses operations require businesses to interact closely with relevant provincial government agencies and departments on disaster preparedness and response, but there is little systematic dialogue or clear plans between provincial governments and businesses.

Disaster preparedness and response activities in businesses

The level of business preparedness for disaster risks can be gauged by the planning and implementation of specific actions. The mail-out survey showed that 117 businesses out of had been hit by natural disasters in the last five years. Of those, 46% have not yet developed disaster preparedness and response plans, with 33% having a disaster preparedness plan but no capacity to implement the plan. Five percent of the businesses which had experienced natural disasters indicated no concern about disaster risk preparedness and reduction, and 16% did not answer.

In sum, even in the areas prone to floods and storms, most of the businesses who responded have not yet developed disaster preparedness and response plans. Of the 51 businesses interviewed, businesses indicated that they do have such a plan but only seven of them were able to provide their plans. Of these 19 businesses, it is notable that15 of them are state-own enterprises and only four are private companies. Almost all of those who have a disaster preparedness and response plan are large businesses, with average annual turnover from 5 to 65 million USD and staff ranging from 300 to 6000 people. Most of the small businesses with much lower annual turnover and number of staff do not have any preparedness and respond plans, even if a number of them have been in business for many years.

More specifically, 59% of the businesses interviewed do not carry out regular maintenance and clearance of debris off of roads and pathways on their own premises; 71% do not have alternative supply routes set up; 47% do not have a plan for protecting equipments and data; 43% do not have a plan for emergency duty assignment for staff; and 55% lack a production recovery plan. Additionally, most businesses agreed that hotline numbers, alternative power sources, back up communications system, alternative transport routes and vehicles, drainage system protection and progress reporting to responsible authorities are essential for enterprises to have and to do when disasters occur. However, the vast majority of businesses have not accessed any of the information provided by the local authorities related to the operations of services or actively work with local governments to establish more active guidance and plans in times of disasters.

Cooperation in disaster response among businesses
Most of the interviewed businesses recognized the importance of cooperation among themselves to cope with natural disasters, from sharing responsibilities in emergencies, to cooperating with other businesses in the same sector, to share experiences on disaster preparedness and response. The cooperation among businesses in fact, however, is quite limited, with 78% of businesses not yet involved in supporting others in emergency cases and only few do so but only within their own business group.

Disaster risk insurance
Disaster risk insurance is considered a risk reduction solution for businesses in disaster- prone areas. The number of businesses having this insurance was quite limited, however, because of inadequate awareness and insufficient information on the importance of such insurance, as well as financial capacity. Discussions with insurance companies indicated that the number of insurance claims they processed were far below the damage caused by disasters for example. In in-depth interviews with 51 businesses in the three project provinces, about 60% indicated that they do not have disaster insurance. Da Nang businesses have the highest level of disaster insurance coverage however. The city was badly hit by the storm Xangsane in 2006, and businesses there reported buying insurance in the aftermath of the storm .

Business support for disaster relief
Interviews revealed that all the surveyed businesses have contributed financial and in-kind support to their workers and vulnerable local communities in time of disasters. Most give on a voluntary basis, while others contributed when asked by local authorities. A few companies also raised their concern about the effectiveness and transparency of local social organizations in using disaster relief contributions.

DRM training need
The survey also showed that the majority of businesses lack DRM knowledge and skills. Approximately 96% of respondents have not sent their staff to any DRM related training. Most preparedness plans have not been incorporated into business and production plans. As such, resources that businesses devoted to DRM-related activities are very limited. Eighty-seven percent of business respondents requested training on DRM. The strongest demand for DRM training was in Nghe An and Da Nang and much lower in Khanh Hoa. This could be because Khanh Hoa suffers less from natural disasters than the other two provinces, although the province has been identified as particularly vulnerable to climate change through ncreased number of storms and the rise in sea level. As such, it is likely that Khanh Hoa will need more support to raise awareness of the importance and benefits of DRM planning. As for DRM training content, the survey identified these key areas: Vietnam's DRM-related policies and laws; DRM procedures and tools; DRM planning; how to mainstream DRM into business and production plan; natural disaster risk and damage assessment; DRM success stories; and disaster relief and Corporate Social Responsibility.

In-depth interviews with businesses revealed similar interests in training content, but business representatives also indicated a strong need for information related to building reinforcement techniques.

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Community based disaster risk management in Viet Nam: Some lessons learnt on communicating disaster risk reduction and climate change adaptation
By Dang Quang Minh

The Government of Viet Nam has long recognized the crucial importance of community based approaches to addressing disaster risk. Since the late nineties, lessons have been learnt from numerous activities conducted by international organizations and the Red Cross in many parts of the country.

In 2009, in the context of the increasingly adverse trend of natural hazards and climate change and the urgency to raise awareness about disaster risk at all levels of management and for the local people, the Government issued Decision 1002 for the implementation of the program: '***Community awareness raising and community-based disaster risk management (CBDRM)'***. The program to 2020 has a total budget of US$53.5 million, of which 55% is from the State, 40% expected from international organizations and 5% from the people.

With activities to be conducted in the coming years, the State will facilitate and co-operate with international organizations to support community awareness raising and the effective coordination and organization of CBDRM. In particular, the focus is on: education, training, skills training for Government officials at all levels and of local people; gradually developing and supporting the use of a range of disaster management tools - including risk maps, community-level early warning systems, community planning for disaster response, etc. - to strengthen and build community initiatives in disaster risk reduction DRR) and climate change adaptation (CCA).

After nearly three years of implementation, the initial results achieved include:

- National implementation guidelines
- A five year implementation plan
- Comprehensive DRR/CCA training materials
- Over 50 trained trainers from national and sub-national levels
- Awareness raising of Government officials at the provincial and lower levels in ten provinces
- The development of training materials for people in the communes and villages
- M&E guidelines and framework
- The initial formation of technical working groups to direct the implementation in some provinces.

The programme has benefitted from a close working relationship with the UNDP, INGOs and the Red Cross under the CBDRM Technical Working Group (co-chaired by the Disaster Management Centre and UNDP). Already much has been learnt as the Government has faced a number of challenges, many of which we consider to be relevant to DRR/CCA stakeholders including:

- ***Ambitious nature*** *– need competent, experienced human resources at all levels to implement the programme*
- I/NGOs and Red Cross societies have ***tremendous experience*** *– how best to capitalize on this?*
- ***Coordination*** – many players, differing approaches, established relationships *– but as yet unclear coordination mechanisms*
- ***Standardized approaches*** *– yet designed to fit local context*
- ***Timeframes*** *- of different projects – GoV, I/NGOs, Red Cross programmes will be starting/on-going at different times*
- A ***massive task*** in providing local officials with CBDRM/DRR and CCA skills in a short period *– community based approaches take time!*
- ***Leadership*** from GoV *– necessary to coordinate different initiatives on a ntionwide basis if scaling up is to be achieved*
- ***Active involvement*** of related Ministries *– is necessary as CBDRM, DRR and CCA requires a multi-sectoral approach*
- ***Gender equality and culturally appropriate issues*** *- need to be mainstreamed in CBDRM, DRR and CCA*
- Ability to ***respond*** to emerging priorities *– necessary in a complex and dynamic global and national context*

- Long term ***impact and sustainability*** of the results – *yet to be seen and requires comprehensive M&E framework and well understand guidance to ensure that lessons are learnt and programmatic changes made as such lessons and practices are important for the effective implementation of the program throughout 6,000 communes around the country.*

The integration of DRR and CCA is important:

- The National Platform for DRR and CCA that the Government will establish later this year will provide opportunities for regular *consultative group meetings to share good practice.*
- The Socio-Economic Development Plans at national and sub-national levels need to ensure that DRR and CCA are incorporated and *driven by local level risk assessment and planning,* in addition
- A more holistic approach to risk reduction and adaptation for the construction of large scale infrastructure development, e.g. dykes, residential clusters is required *through participation of local people in decision making process.*

Overall, through its initial experiences, the Government recognizes the vital importance of sharing learning and good practice amongst DRR and CCA practitioners that has informed the CBDRM programme to date. Much has already been achieved in Viet Nam and while much remains to be undertaken, this is best done through communicating effectively our challenges and successes in the implementation of DRR and CCA.

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SESSION 16

Session 16	Parallel session 16: Monitoring and evaluation
Chair	**SVRK Prabhakar (IGES)**
Abstract 1	Enhancing adaptive capacity through Participatory Monitoring, Evaluation, Reflection & Learning (MERL) for Community-based Adaptation
Presenters	Jess Ayers (IIED)
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Abstract 2	Adaptive resilient development: learning from CEDRA climate risk assessment pilot programme
Presenter	Mike Wiggins (Tearfund)
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Abstract 3	Challenges and ways forward for researching with CBA: experiences from action research for community adaptation in Bangladesh (ARCAB)
Presenter	Sumana Tanchangya (Bangladesh Centre for Advanced Studies)
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Abstract 4	Building the resilience of communities and ecosystems to the impacts of climate change in the Pacific: lessons from a project partnership
Presenter	Robyn James (TNC)
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Enhancing adaptive capacity through Participatory Monitoring, Evaluation, Reflection & Learning (MERL) for Community-based Adaptation

By Jess Ayers & Tine Rossing

Despite the increase in attention to and practice of community-based adaptation, there remains a lack of participatory, practical, replicable and relevant methodologies for measuring, monitoring and evaluating changes in vulnerability and adaptive capacity to generate evidence of successful community-based adaptation. In response to this gap, an Experts Working Group[2] was convened by CARE in partnership with IIED in February 2011, to develop a participatory monitoring and evaluation (PM&E) framework for local and community-based adaptation. This framework is intended to be an open-source PM&E methodology that can be used for and by vulnerable communities, supported by planners, practitioners and policymakers across the field, to inform their adaptation planning and implementation.

The resulting framework is a Monitoring, Evaluation, Reflection & Learning (MERL) tool primarily intended to support adaptive decision-making in vulnerable communities. The framework presents a participatory methodology for developing and monitoring against CBA indicators, and in doing so provides a new platform for local stakeholders to articulate their own needs, which is a fundamental part of building adaptive capacity. The dual learning and downward-accountability functions of the MERL framework for CBA present an opportunity for building and measuring changes in local adaptive capacity as for facilitating the measurement of "effective adaptation" that can inform the monitoring and reporting needs of stakeholders across scales. The framework also responds to the need for continuous feedback and joint learning and communication in order for CBA to be flexible in light of the challenge of uncertainty. When M&E is carried out in a participatory fashion it enables an ongoing dialogue with and within communities as part of the promoted continuous learning and reflection process.

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Adaptive Resilient Development - learning from CEDRA Climate Risk Assessment pilot programme
By Mike Wiggins

Tearfund UK have completed piloting their Climate Change and Environmental Degradation Risk and Adaptation assessment (CEDRA) across 10 countries over 3 continents. This session will present learning from their Evaluation assessment of 7 of these countries (link: http://tilz.tearfund.org/Topics/Environmental+Sustainability/Learning+and+Evaluation.htm), which demonstrates that local climate change adaptation cannot be undertaken independently of local development or disaster risk reduction programmes. Successful adaptation must be integrated with our local development plans for success. The session will give an overview of where the CEDRA process has been piloted and present key learning that has been integrated into the updated version of CEDRA, which is launched early April 2012.

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Challenges and Way Forwards for researching with CBA: ARCAB Experiences
By Nazmul Huq and Sumana Tanchangya

The paper discusses the fundamental challenges of defining and delivering Community Based Adaptation (CBA) obtained through a long term action research project called Action Research for Community Adaptation in Bangladesh (ARCAB). ARCAB is a long term action research project on five major ecosystems in Bangladesh in order to promote sustainable CBA mechanisms. The project engages different layers of partner e.g action partner as International NGOs, research partner as national and international research organizations and capacity development partners. Most of the partners are defining and implementing CBA despite of significant conceptual and methodological differences on CBA concepts. Furthermore, no monitoring measure is deployed by any of the organizations for measuring and monitoring delivered CBA. ARCAB finds these conceptual, methodological and implementing distortions are as major constraints for defining a widely acceptable CBA definition and methodologies. The paper introduces a roadmap of ARCAB approach which targets to reduce the conceptual gaps among the implementing organizations in order to deliver sustainable CBA actions and interventions.

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Building the resilience of communities and ecosystems to the impacts of climate change in the Pacific: lessons from a project partnership
By Robyn James

Many CBA activities are initiated and implemented through projects, facilitated by NGO's, development agencies, with various partners, contractors and collaborators. Many aid projects typically have a short timeframe (less than three years); detailed upfront logframe; fixed budgets and schedules, and compliance and reporting requirements. All of these characteristics can be constraints and compounded when addressing a long-term and very real issue for communities in the countries where we work.

In 2010, The Nature Conservancy-led AusAID funded project "building the resilience of communities and their ecosystems to the impacts of climate change in the Pacific" commenced, with a short first phase timeframe of less than two years.

This first phase of the project, which ran until March 2012, was useful in highlighting key successes and shortcomings in a project-based approach to community-based adaptation in Pacific Island countries. The successes included:

- Concerted effort at partnership
- Willingness of partners and donor to work at the pace and capacity of communities and local civil society groups
- Flexibility in direction and prioritising / weighting of project interventions
- Focus on participatory tools and evaluation of each stage of CBA planning and implementation
- Focus on supporting capacity and motivating local action, rather than outputs and achieving short-term outcomes
- Connection to governance structures, policy and government planning processes at local, sub-national and national levels
- Organic communications and networking structure based on strengthening local voices and exploring information and communications technology to help get lessons and messages broadcast.

Lessons included:

- Over-ambitious design and complex structure of the project proposal
- Some level of assumption that external technologies and science would provide answers and solve problems
- Project timeframes are rarely appropriate to 'implement' CBA

Through participatory evaluation, project partners and AusAID's International Climate Change Adaptation Initiative are working on a 6-month design phase to ensure continuation of the project taking into account the lessons and experiences into Phase II

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SESSION 17

Session 17	Parallel session 17: Food security and nutrition
Chair	**Catherine Zanev (WFP)**
Abstract 1	Impacts of climate change on fisheries: Implications for food security in Sub-Saharan Africa
Presenters	Essam Yassin Mohammed (IIED)
Email	ESSAM.MOHAMMED@IIED.ORG
Abstract 2	Impact of Rainfall Variability on Food Security and Human Mobility: Implications for Community Based Adaptation and Policy Interventions
Presenter	Selim Reza Hasan (CARE)
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Abstract 3	More equal – more resilient: Gender dimensions of food and nutrition security in a changing climate
Presenter	Agnes Otzelberger (CARE)
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Abstract 4	Farmers piloting the system of rice seed intensification (SRI) towards climate change adaptation in BacKan Province
Presenter	Truong Quoc Can (The Centre for Sustainable Rural Development)
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Impacts of climate change on fisheries: Implications for food security in Sub-Saharan Africa
By Essam Yassin Mohammed and Zenebe Bashaw Uraguchi

According to IPPC (2007) Climate change will exacerbate existing physical, ecological/biological, and socioeconomic stresses on the African coastal zone. Climate change poses significant and long-term risks to fisheries in many tropical developing countries in general and Sub-Saharan African countries in particular. The benefits gained from fisheries development are significant. From local to global levels, fisheries and aquaculture play important roles for food supply, food security and income generation. Some 43.5 million people work directly in the sector, with the great majority in developing countries. Adding those who work in associated processing, marketing, distribution and supply industries, the sector supports nearly 200 million livelihoods (Barange and Perry, 2010). Fisheries is a source of employment for around ten million people and the main or only source of animal protein for 20 per cent of inhabitants in Sub-Saharan Africa (SSA). Thus the sector plays a significant role in boosting the availability of food, thereby tackling risks to food security in several agrarian and highly food-insecure countries in the continent. Moreover, fish is one of the most traded food commodities in the region. Fish trade supports economic growth processes in developing countries by providing an important source of cash revenue to service international debt, fund the operations of national governments, and import of food for domestic consumption, thus contributing to national food security and diversification of diets. There is also growing evidence that fisheries could also play a significant role to enhance resilience of livestock population, by supplementing the supply of animal protein during lean years.

While the importance of fisheries and aquaculture is often understated, the implications of climate change for these sectors and for coastal and riparian communities in general are difficult to ignore (Barange and Perry, 2010). Climate change poses significant threat to fisheries on top of the many concurrent pressures such as overfishing, habitat degradation, pollution, introduction of new species and so on (Brander, 2010). Changes in biophysical characteristics of the aquatic environment and frequent occurrence of extreme events will have significant effects on the ecosystems that support fish. This will affect food security in multiple ways.

Firstly extinction of some fish species means lower fish production for local consumption. Secondly, migration of many fish species to aquatic environments with optimal climatic condition will have a tremendous effect on fishers who are not able to follow fish due to political (borders) and economic reasons. Finally, reduced fish production for export means lower earnings from fish export and consequently lower capacity to import food therefore exacerbating threats to national food security.

This paper explores the potential impacts of climate change on fisheries and their implications for food security in Sub-Saharan Africa. Sub-Saharan Africa is given more attention in this paper because (1) the region

is home to more than 380 million people who live under poverty line and projected to be inhabited by half of the world's poor by 2020; (2) there is very limited literature on the potential impacts of climate change on fisheries in the region; (3) existing economic problems limit the capacity of the countries in the region to adapt to or insulate themselves from the impacts of climate change; and (4) most of the poor rely on fisheries for their livelihoods and thereby contributing to food security of the countries. Nonetheless, fisheries continue to get minor attention by policy makers. This is reflected in the development policy documents of the countries which according to an ADB study fisheries was mentioned in only three poverty reduction strategy paper (PRSP) prepared by the countries in Sub-Saharan Africa. In this study, we aim to highlight the contribution of fisheries to poverty reduction and food security and portray the potential impacts of climate change on the already strained resource.

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Impact of Rainfall Variability on Food Security and Human Mobility: Implications for Community Based Adaptation and Policy Interventions
By Selim Reza Hasan

Climate change is threatening rural livelihoods in northern Bangladesh and impacting on food security, social equity, gender disparity and human mobility. 'Where the rain falls'- a study undertaken in Bangladesh as part of a larger eight-country research project- revealed changes in weather pattern and rainfall variability and a discernible shift in seasonality of occurrence. A reduction in seasonal rainfall, compounded by a shift in occurrence, is impacting agricultural productivity and income and employment opportunities for the poor and the marginalized. Transformations of agricultural practices are taking place (e.g. practice of high yielding varieties, application of irrigation in rain-fed cropping, etc.), but are yet to be adopted by the poor and small scale farmers. Poor people, those who sell labor in agriculture and/or depend on natural resources are hardly able to manage their household economy and migration has become a viable option in securing their livelihoods- however that also incur a huge social cost. Reduction in meals and consumption of lesser quality food, and loan at high interest are some of the negative coping mechanisms those putting poor families further at risk. The social implication of such poverty and vulnerability contributing to increased incidence of violence against women and early marriage for adolescent girls. A quick rotation of generations is taking place due to early marriage that significantly contributing to the population growth in Bangladesh.

The research warrants carefully design of CBAs and immediate policy interventions in relation to influence social safety net measures in rainfall affected poverty stricken areas.

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More equal – more resilient: Gender dimensions of food and nutrition security in a changing climate
By Agnes Otzelberger

It is increasingly recognised that climate variability and change have impacts on all dimensions of food and nutrition security. It is equally recognised but less well understood how gender relations, in turn, direct and amplify these impacts. They are decisive for the often highly differentiated roles in food production, access and utilisation women and men adopt in different contexts, and also determine the level of access to assets for and control over decisions on household strategies to address food insecurity.

Without recognising and responding to inequalities, women's and men's distinct roles, and their complementary skills, needs and priorities, only fragments of resilience can be captured. Key issues are left out. For example, no one understands the impact of climatic variability on nutrition better than those who are responsible for food processing and child feeding practices – in most cases women. Where women have less voice than men in planning processes and their concerns are not communicated or given less priority, nutrition and health impacts of climatic and other hazards are unlikely to be adequately captured and addressed. Poor nutrition and health, in turn, undermine resilience to shocks and stressors both in the short and the long run.

Bringing together different stakeholders well versed with issues such as food production and access, nutrition and health, climate science or the social determinants of climate vulnerability and adaptive capacity, the emerging quest for a more integrated resilience approach requires effective communication of communities' complex realities. Based on examples from South Asia and Subsaharan Africa, the presentation will illustrate how a gender lens contributes towards this, and how greater gender equality leads to greater resilience.

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Farmers Piloting the System of Rice Seed Intensification (SRI) Towards Climate Change Adaptation in BacKan Province
By Truong Quoc Can *et al*.

Rice production is and will be affected by changes in the climate. Irregular rainfall, drier spells in the wet season (damaging young plants), drought and floods are all having an effect on yields. New techniques are therefore required in order to cope with and respond to climate change and to stabilize the productivity of rice. SRD is helping to test the system of rice seed intensification (SRI) as a climate change adaptation strategy based on the 6-year successful project on Strengthen and Develop Farmer Rice Seed System in BacKan province

The outputs of SRI are very promising in terms of effectiveness as well as sustainability, key findings include an increase of outputs and reduction of inputs such as seeds, chemical fertilizer, pesticides and irrigation water, enabling communities to adapt to climate change and reduce their vulnerability. Capacity building of local staff and key villagers, especially women and men from the Thai ethnic minority group, are strengthened by participatory planning and household farm management.

SRI maintains soil quality, increases food productivity, protects the environment from pollution, reduces greenhouse gases and enhances the achievement of national food security. It is expected that the economic, social and environmental effectiveness of SRI will be recognized by the local farmers and authority and will motivate the application of this approach in other parts of the province.

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SESSION 19

Session 19	**Parallel session 19: CBA in urban areas**
Chairs	**Richard Friend (ISET) and David Dodman (IIED)**
Abstract 1	Drivers of climate vulnerability in slums of Zambia
Presenters	George Kasali (Copperbelt University, Zambia)
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Abstract 2	Urban Youth (16-25) Climate Change Adaptation Initiatives
Presenters	Vu My Hanh (Challenge to Change)
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Abstract 3	The role of communities in urban planning for climate adaptation: Experiences from Vietnam
Presenter	Nguyen Phuc Hoa (Challenge to Change), Tran Van Giai Phong and Sarah Reed (ISET Vietnam)
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Abstract 4	Rooting urban climate resilience through bottom-up approach: case of ward level micro resilience planning - Shiraz Wajih (Gorakhpur Environmental Action Group, India)
Presenters	Shiraz Wajih (Gorakhpur Environmental Action Group, India)
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Abstract 5	Adapting to rising waters: participatory investigation into community responses to urban flooding in Mathare Valley Slums, Nairobi, Kenya
Presenters	Jessica Thorn (University of Oxford, UK)
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Drivers of climate vulnerability in slums in Zambia
By George Kasali

The study employed the livelihood vulnerability index methodology to assess the risks which are being and would be experienced from climate variability and change by slum dwellers living in four shanty settlements of the City of Kitwe in Zambia. The overall composite index was determined based on indices derived from data on indicators for vulnerability factors which were categorised into the sub-components of socio-demographics, income-expenditure patterns, social networks, health, food, water and sanitation, climate hazards and waste management practices. The sub-component indices were finally rearranged to enable the assessment of exposure, sensitivity and adaptive capacity of slum dwellers to climate variability.

The study has identified that the main climate risks faced by slum dwellers are those associated with flooding, leading to the collapsing of houses and sanitation infrastructure and contamination of water supply sources. Households suffer damages and losses of assets and food reserves, while for those who normally sleep on the floor, drowning of infants, the severely ill and drunkards does occur. Outbreaks of cholera, dysentery and typhoid are also rife. When roads/bridges get flooded or damaged, there is loss of income as workplaces become inaccessible.

The main drivers of this climate vulnerability include low incomes, poor housing, water supply, drainage and sanitation infrastructure. The slums are also overcrowded and lack controlled solid waste disposal facilities. Most importantly, most of these slums are located within the flood zone of Kafue River. Consequently, the study has developed a climate change adaptation plan for the four slum areas with interventions subdivided into those to be implemented by households, communities, local government and central government. Prioritisation of interventions has been based on comparisons of the livelihood vulnerability indices obtained for the respective slum settlements.

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Urban Youth (16-25) Climate Change Adaptation Initiatives
By Vu My Hanh

Global youth are vital stakeholders of the medium term future when climate change (CC) will have its greatest impacts. But they have little or no current power over adaptation strategy and programming.

AYIP (ACCCRN Youth Initiatives Program) is funded by the Rockefeller Foundation under the Asian Cities Climate Change Resilience Network (ACCCRN). It is implemented by Challenge to Change (CtC) and the Vietnam Youth Union in three cities – Quy Nhon, Da Nang, Can Tho. It enables Urban Youth aged 16 to 25 to implement their own CC adaptation/resilience initiatives. Between 20 and 30 Youth Groups are supported to implement initiatives of value between USD 500 and USD 5,000, from April 2012 till July 2013.
Initiatives include:

- Neighbourhood-level initiatives proposed and led by local neighbourhood Youth
- Initiatives which add value to existing larger-scale adaptation projects
- Youth-led research and documentation of existing ways communities are adapting to CC

Youth Unions makes video-documentation of initiatives. Key outcomes are the enhancement of Youth rights; an understanding of Urban Climate Change Resilience (UCCR) through the eyes of Youth; and the spread of CC awareness through existing Youth networks. The program takes advantage of Youth characteristics as good Change Agents and trend-setters who are highly communicative.

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The role of communities in urban planning for climate adaptation: Experiences from Vietnam
By Nguyen Phuc Hoa, Tran Van Giai Phong and Sarah Reed

A wide range of research and body of literature on urban climate adaptation highlights the need to integrate climate change into urban planning and for community participation in this process. While there is a wealth of experience engaging local communities in identifying vulnerabilities and responses to address disasters and climate change, there is limited analysis of how these community driven processes can contribute meaningfully to urban planning processes in specific contexts. This is by no means self-evident: these processes are often complex, murky, and can be poorly understood even by the planners themselves, much less by climate adaptation practitioners or communities.

Through the Asian Cities Climate Change Resilience Network, Challenge to Change with support from ISET and NISTPASS is working with city governments and communities to build capacity for and institutionalize a process of participatory planning for climate resilience in three cities. A key challenge in this work is identifying the appropriate entry points through which community prioritizes can be integrated into the city Socioeconomic Development Plan (SEDP). These examples are highly context specific, but provide useful models of the kinds of questions and analysis required in other cities and countries. This presentation will share ongoing experience from the processes, including new insights, challenges, and remaining questions.

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Rooting Urban Climate Resilience through Bottom-up Approach: Case of Ward Level Micro Resilience Planning

By Shiraz Wajih

The Urban Climate Change Resilience Planning is closely linked to urban development processes. Systems, Agents and Institutions identified as the key factors enhancing the risks in the situations of climate change impacts are linked to natural settings, behavioural patterns and weak governance in cities like Gorakhpur situated in the flood prone foothills of Nepal Himalayas. The top down planning processes - without participation of citizens, largely ignore the local situations and needed capacity development at city level. The large scale influx of rural population to urban areas are adding to new challenges before Municipalities already struggling with limited resources and ability to provide basic services to citizens. The City Resilience Strategy developed for the city advocates a bottom up approach in planning and service delivery.

The 73rd constitutional amendment in India, has provided ample scope of decentralized planning and governance in the rural areas and there are range of encouraging results. However, the corresponding 74th constitutional amendment meant for the Urban areas have been not taken up with similar political will. The non- operationalization of this provision caused lack of related methodologies and people led processes of disaster management and climate adaptation; also affecting transparency and participatory governance.

The present paper is a primer attempt to answer these questions through innovative solution called decentralized urban management through bottom-up approach initiated at Mahewa ward, in Gorakhpur city under the auspices of Asian Cities Climate Change Resilience Network (ACCCRN) programme supported by Rockefeller Foundation. The process is helping development of thematic community institutions, micro-planning at ward level and implementation of activities as prioritized by local communities- especially the poor and marginalized; and the linkages of relevant programmes. Recommendations of the initiative would be a guiding tool for policy makers, urban planners and citizens associations.

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Adapting to rising waters: Participatory investigation into community responses to urban flooding in Mathare Valley Slums

By Jessica Thorn

The confluence of unprecedented rates of urbanization, global environmental change, the economic pressures of globalization and population growth means that people are streaming in to cities at rates beyond their capacity to integrate. In burgeoning poor urban settlements autonomous adaptation strategies are often the only measures to cope with and build resilience to increasing climatic and non-climatic drivers of vulnerability. Yet, in both literature and practice there is a lack of understanding of the dynamics of adaptation and risk reduction at the community level, particularly in urban slums. Residents in poor urban settlements like Mathare Valley Slums in Nairobi, Kenya are already exposed to regular flood risk – likely to be exacerbated by predictions of long-term wetting due to climate change in East Africa. Using mixed qualitative methods, this research applies Thornton and Manafsi's (2011) meta-language of adaptation pathways to investigate autonomous adaptation strategies and how they intersect with planned policy and interventions to reduce at broader spatial levels. Results show that residents of Mathare Valley Slums have developed innovative means to reduce risk, indicating signs of revitalization and building of a culture of resilience. However, such strategies are not incorporated into planned interventions, and while progressive policies designed to support local adaptive capacity exist, they fail to benefit the residents of Mathare. This case illustrates the need to incorporate the wealth of knowledge and experience extant at the community level in the development of adaptation planning, with opportunities in investing in informal institutions such as youth groups, and disseminating early warnings through existing infrastructure such as community-based radio stations. Future research may consider the strengths and weaknesses of supporting informal institutions' adaptation strategies.

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SESSION 20

Session 20	Parallel session 20: Health
Chairs	**Mathew Tiedemann (Pact Vietnam) and Dao Thi Mai Hoa (COHED)**
Abstract 1	Integration of health, nutrition security and gender in climate resilient sustainable development
Presenters	Cristina Tirado von-der Pahlen (Center for Public Health and Climate Change)
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Abstract 2	Health and Natural Disasters: A Response Plan at Different Authority Levels in Vietnam
Presenters	Pham Thi Hong (COHED)
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Abstract 3	Climate change and health mitigation and adaptation in Zambia
Presenters	Evans Tembo (MOH Chainama, College of Health Sciences, Zambia)
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Abstract 4	Reduction of climate risk on health – the case of community-based dengue fever prevention in Vietnam
Presenter	Thuan Thi Nguyen (International Federation of Red Cross Red Crescent Societies Delegation in Vietnam)
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Abstract 5	Using ICTs and innovative communication programming to assist pandemic preparedness at the community level
Presenter	Cecile Lantican (FHI 360, Laos)
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Integration of health, nutrition security and gender in climate resilient sustainable development
By Cristina Tirado von-der Pahlen

Climate change disproportionately impacts the health and nutrition insecurity of poor women and children as vulnerable members of society. This is particularly relevant in connection with natural disasters and displacement. At the same time, women serve as agents of change through their unique roles in society and therefore are critical in the development of health and gender sensitive climate change adaptation and mitigation strategies and policies.

Many of the same inefficient and polluting uses of energy that are causing climate change are exacerbating chronic diseases such as cardiovascular disease, stroke, asthma and other respiratory illnesses affecting particularly women and children. There are therefore important opportunities for health, and for the environment, in strengthening health and gender sensitive adaptation and mitigation to climate change, by promoting policies that simultaneously reduce greenhouse gas and health exposures.

This paper will give an overview of the differentiated impacts of climate change and the health of women and man considering social factors that determine vulnerability to climate change. The paper will identify gendered adaptation and mitigation policies and their potential for co-benefits improving health while reducing emissions and will make recommendations in particular, in relation to women empowerment.

6. Relevance to overall theme of the Conference
By empowering women community leaders with the skills, knowledge, tools and communication messages on the co-benefits of addressing climate change and health
they serve as ambassadors of good practices to advance transformational adaptation and mitigation strategies in their respective communities.

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Health and Natural Disaster: Response Plan at Different Authority Levels in Vietnam
By Pham Thi Hong

***Background*:** Climate change has lead to an increase in the number and intensity of natural disasters. This is causing an increase in the occurrence of vector-borne, water-borne and other infectious diseases. In addition, natural disasters can make a significant impact on food production which affects nutrition. Natural disasters influence both the accessibility and the availability of health services when people in disaster areas need health care the most.

***Methodology and objectives*:** The impact of natural disasters on human health can be significantly reduced if response plansumiich are effective. This literature review aims to identify health-related prevention activities which have been implemented at national, provincial, and community levels in Vietnam in order to prepare and respond to natural disasters. It also draws on international examples to identify learning's for Vietnam.

***Findings*:** Drawing on existing disaster management literature the review shows Vietnam has a range of disaster management activities at different authority levels. Activities are undertaken in preparation of, during, and after natural disasters. These activities, however, lack a strong focus on health issues, and effective implementation on health care related to natural disasters. Communication between different levels has an impact on the effectiveness of improving health outcomes after natural disasters.

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Climate and health mitigation and adaptation in Zambia
By Evans Tembo

The health of the world's population is at risk. Health impacts of climate change is leading to higher levels of certain air pollutants, increased transmission of diseases from poor water quality, increased vector-borne diseases, disruption of health services, mass casualties and death in developing countries. The situation in Africa is being worsened because of its ill-preparedness to cope with the adverse impacts of climate change, particularly on health, because of weak and already over-stretched health systems. For instance annually, about 1.2 million people die from causes attributable to urban air pollution, 2.2 million from diarrhoea largely resulting from lack of access to clean water supply and sanitation, and from poor hygiene, 3.5 million from malnutrition and approximately 60 000 in natural disasters.

According to the initial communication report (2001), the increased frequency of droughts results in crop failures and water scarcity leading to increased malnutrition and dirrheoal diseases in Zambia. On the other hand, increased cases of malaria and major epidemics of cholera and other water-borne diseases are associated with floods and increased temperature regime. In Zambia, malaria is the leading killer disease in the country, responsible for 4.0 million cases and 50,000 deaths annually (NAPA, 2007). Other climate-sensitive diseases include dysentery, cholera, respiratory infections and malnutrition are more pronounced in the central, southern, eastern, Lusaka and western provinces of Zambia (NAPA, 2007). Groups that are specifically vulnerable to climate change and health include: Indigenous populations, elderly people, children, chronically ill people, people with a low income and homeless people.

For this reason, the Ministry of Health has decided to priotise health impacts of climate change including its plans to undertake a baseline risk and capacity assessments survey; capacity building of the environmental health personnel in climate change resilience; drinking water quality surveillance; and to undertake awareness raising and social mobilization, generate and disseminate knowledge on appropriate local communities.

The proposed activities to enhance community based mitigation and adaptation to climate change will include community trainings in household water treatment and storage (HWTS) methods (i.e. solar disinfection, chlorination, biosand filtration); the use sustainable sanitation facilities and hygiene education; effective surface water management in a quest to reduce malaria, waste management; as well engaging the local communities in planting fruit trees in their yards. In this respect, a model has been developed which will ultimately lead to reduced climate-sensitive diseases in Zambia.

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Reduction of climate risk on health – the case of community-based dengue fever prevention in Vietnam
By Thuan Thi Nguyen

Among vector-borne diseases that sensitive to climatic and weather conditions, dengue fever is being seen as one of increasing health problem to many urban and rural communities in Vietnam. To address this problem, the Vietnam Red Cross has been implementing a 2.5-year operational research in Mekong on a health risk management model. This project is supported by Climate Centre through the International Federation of Red Cross and Red Crescent Society and funded by the Rockefeller Foundation.

The research assesses understanding of local communities in climate change and its possible effects on health as well as their knowledge, attitude and practice in dengue fever before and after interventions. Implemented actions at community level around communication to vulnerable families about climate change and behaviour change in dengue fever was linked to results of the baseline study. Planning efforts around contingency planning that has further guided the implementation of campaigns, house-to-house education has shown effective to reduce further spreading dengue fever cases and strengthening the existing partnership between the Red Cross, local health and authorities. The lesson-learned and good practices in using community-based model for early prevention and action at community level to reduce the preventable death and sickness in Vietnam is used to inform global health program of the Red Cross.

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Using ICTs and Innovative Communication Programming to Assist Pandemic Preparedness at the Community Level
Cecile Lantican (FHI 360, Laos)

The focus of this presentation will be to discuss how innovative applications of ICTs coupled with communication, public education and social marketing approaches can be used effectively to support emergency and disaster risk management efforts attributable to severe climatic events and other shocks to rural communities while helping to improve community safety and resilience as well as ensure access to essential services, such as food, health, safe water and hygiene. The presentation will explore means to solicit and gain early local engagement and buy-in to enhance program sustainability and acceptance. Examples will be presented from Laos and other Southeast Asian countries.

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SESSION 22

Session 22	Plenary session 22: Practical communication approaches for CBA
Chair	**Richard Bossi (FHI 360)**
Abstract 1	Taking a System's Approach to Scaling Up Development Impact: The Case of SCALETM and its Applicability in Assisting Community Preparedness and Responses to Climatic Shocks
Presenters	Patrick Papania (FHI 360)
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Abstract 2	Story-telling - the use of participatory video in communicating CBA within and between communities, and influencing policy decisions in Pacific Island countries
Presenter	Kat Gawlik (Solomon Islands/New Zealand)
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Abstract 3	Impact of radio, cinema and vernacular publications in enhancing community based adaptation to climate change
Presenter	Charles Chikapa (Community Radio Initiative, Malawi)
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Abstract 4	Communicating CBA in Manus province, PNG: scaling-up community-led action and setting the agenda in government development planning and policy
Presenter	Gabriel Kulwaum (Manus Provincial Government)
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Abstract 5	Climate information and communication in CBA
Presenter	Maurine Kasuvu Ambani and Fiona Percy (CARE)
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Taking a System's Approach to Scaling Up Development Impact: The Case of SCALE™ and its Applicability in Assisting Community Preparedness and Responses to Climatic Shocks
By Patrick Papania

SCALE™ (System-wide Collaborative Action for Livelihoods and the Environment) is a communication-based methodology developed with funding support from USAID over 7 years and applied in more than 10 countries worldwide. More specifically, the methodology is designed to accelerate stakeholder engagement, sustain commitment, and promote collaborative action around a specific development issue. It has been used effectively in multiple sectors, including small-holder agriculture, community-based ecotourism, artisanal fisheries, micro- and small enterprise development, and public health. Unlike more traditional development methodologies and approaches that start with pilot programs and attempt to go-to-scale over time, SCALE starts at the level of the desired impact, or the "social" system-level.

SCALE was used to assist the World Agroforestry Center (ICRAF) accelerate engagement of a wide range of partners in scaling up the use of fodder shrubs in central Kenya. Over the 10 years previous to SCALE, ICRAF and its partners had helped about 50,000 smallholder dairy farmers in central Kenya plant fodder shrubs. In one year, and almost entirely due to SCALE, ICRAF and its partners were able to sell and distribute planting material (seed and seedlings) for over double that number of farmers with only modest financial support. Key to SCALE's effectiveness is communication, and the transparent, accurate, timely distribution of the same information to all system stakeholders, and the strategic deployment of donor funds to strengthen the system and stakeholder response to the development challenge.

Through a facilitated process that can accommodate hundreds of stakeholders at the outset, it has proven effective in generating sustained commitments (financial, in-kind, or political support) and the active engagement over time of representatives from across a social system. It has also demonstrated to be capable of addressing issues at the provincial, national, or regional (transboundary) level. SCALE offers potential as a new tool to assist national governments, regional authorities, NGOs, and CBOs to create more resilient, less vulnerable and better prepared communities capable of adapting to climate change. The presenter will provide an overview of the five-step methodology, the use of Social Network Analysis (SNA) to monitor to

strength and vitality of the system, and the critical role of communication. Brief examples of SCALE's application will also be provided.

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Story-telling -the use of participatory video in communicating CBA within and between communities, and influencing policy decisions in Pacific Island countries.
By Kat Gawlik

In many Pacific Island countries, especially Melanesia (Papua New Guinea and Solomon Islands), oral traditions and story-telling form a vital part of daily life and culture. In many instances, these traditions are becoming eroded and undermined by rapid social and environmental change. However, in many instances, individuals and communities are applying their story-telling skills to explore important issues and promote change through community-led action. Participatory video is one tool that can help facilitate discourse and discovery by a community of pressing issues in their locality. Inclusive and voluntary access to the skills and equipment can easily be provided by most civil society and NGO support groups.

Participation in making a film can be an effective way to explore the perceptions and concerns of all demographics of a community, and share these issues within the whole community in an open manner. As part of the AusAID International Climate Adaptation Initiative partnership project, "building the resilience of communities and their ecosystems to the impacts of climate change in the Pacific", participatory video training and facilitation was implemented with coastal and island communities. Two cases studies from Solomon Islands (Chivoko, Choiseul) and Papua New Guinea (Ahus Island, Manus) provide lessons on the role, importance and effectiveness of participatory video in helping plan and evaluate CBA activities, as well as communicate beyond village boundaries to local, national and international audiences. Clips from the making of these videos will accompany the presentation.

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Impact of radio, cinema and vernacular publications in enhancing community based adaptation to climate change
By Charles Chikapa

High illiteracy compounded by deepening levels of poverty has often been associated with massive environmental degradation in Malawi. In such a scenario, free and chain circulating vernacular publications, radio programs and mobile cinema shows, becomes powerful tools in communicating and educating the rural masses. Producing more vernacular environmental stories, radio and video documentaries that are availed at no cost, drives a call to action in addressing community's environmental challenges. These create a platform among rural communities in acquiring information that assists in widening their knowledge base and responses in mitigating climate change. This is based on a detailed assessment and analysis of a bilingual free distributed newspaper, a Radio program on sustainable fisheries and the role of the Fisheries Department in raising awareness on environmental and social economic issues affecting its clientele. However sustainability mechanisms and economic implications among media houses in harnessing production of such free services has also been highlighted as a challenge worthy addressing on long term basis. Appreciating the role information and communication plays in a technologically dynamic world, this paper rates such tools as crucial in not only creating environmental awareness but also influencing community's efforts in mitigating the impacts of climate change and enhancing general rural development in the long term perspective.

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Communicating CBA in Manus province, PNG – scaling-up community-led action and setting the agenda in government development planning and policy.

By Gabriel Kulwaum

In Manus province, Papua New Guinea, concern over climate change impacts has led to requests for support in establishing an island-wide network of protected areas to help manage ecosystem services, especially coral reefs, in the context of the provincial development planning process, and informing the national Vision 2050 development planning reform process.

In Manus, there is a different level of participation by individuals within their communities in understanding and contributing to decision-making over marine and terrestrial protected areas. An innovative tool to aid deeper participation in planning and decision-making, called participatory 3D modeling (P3DM), was implemented by the Manus Provincial Government in Lorengau, September 2011.

P3DM combines community mapping with open discussions on land-use planning scenarios. It integrates geographic precision with local spatial knowledge of participants and 'mind-maps' of locality and familiar settings.

In Manus, 'roundtable' access to a large, to-scale model of the whole island and province, by up to 50 people at the same time, all with a better cognitive understanding of their landscape and relation between features on the 3D map, allowed a much deeper level of participation by community members in local planning discussions that pieced together to the scale of the province. Participants were able to 'talk to the model' to explain issues and concerns, rather than confront authority and protocol

In Manus the use of P3DM has added a new dimension to participatory adaptation planning and protected area design and designation.

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Climate Information and Communication in CBA

By Maurine Kasuvu Ambani

This paper will discuss how climate information from a variety of sources, and its communication, are critical components for planning and implementing successful Community-Based Adaptation (CBA). Building on CARE's CBA framework, the paper will highlight how climate information can be used in understanding climate impacts on livelihoods, building analogues that are useful for assessing future impacts, developing livelihood diversification profiles, in early warning systems and to inform seasonal and long term decision making. Among a number of communication methods, experience from Participatory Scenario Planning (PSP) workshops will be shared. PSP workshops provide forums for enabling communities, local government and adaptation practitioners to access, discuss, understand and use meteorological seasonal climate forecasts for planning livelihood and disaster risk reduction adaptation strategies, while at the same time presenting an avenue for sharing and integrating local knowledge. The paper will conclude by underscoring the need for climate communication in building community adaptive capacity to climate change and variability.

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SESSION 23

Session 23	Plenary session 23: Emerging challenges for CBA
Chair	**Atiq Rahman (BCAS)**
Abstract 1	Adaptation and development: perspectives from Bangladesh
Presenters	Syeda Sajeda Haider (Bangladesh Centre for Advanced Studies)
Email	natasha.haider@bcas.net
Abstract 2	Climate-induced community relocation: community-based adaptation strategies to protect human rights
Presenter	Robin Bronen (University of Alaska)
Email	rbronen@yahoo.com
Abstract 3	Integration of community based adaptation into development planning
Presenter	David O. O. Obong, Permanent Secretary, Ministry of Water and Environment, Uganda
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Abstract 4	Barriers and challenges for implementing community based adaptation activities: institutional, technological, social and organizational
Presenter	Charles Nyandiga (UNDP)
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Abstract 5	Social accountability in adaptation finance: emerging country-level practices
Presenter	Sladjana Cosic (World Bank)
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Abstract 6	Scaling up community-based adaptation
Presenter	Matt Spannagle (AusAID)
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Adaptation and Development: perspectives from Bangladesh
By Syeda Sajeda Haider (Natasha) and Golam Rabbani

There is a confusion regarding the relation between adaptation and development not only among the general public but also sometimes among the adaptation practitioners. The objectives of the study was to understand what is climate change adaptation according to the practitioners?; what are the main elements of adaptation projects?; and what kind of adaptation activities are required to best address the climate change impacts in Bangladesh?. The study shows that the objectives of adaptation projects in Bangladesh can be roughly divided into four thematic areas: (1) “Disaster Risk Reduction” activities undertaken to reduce the vulnerability of climatic disaster affected community by different structural and non-structural disaster risk reduction activities; (2) “Food Security“ activities addressing specifically the problem of food insecurity resulting from different climatic stress such as rise of temperature, flood, drought, salinity etc.; (3) “Livelihood” activities mainly undertaken to achieve the diversification of livelihood options and livelihood improvement activities to reduce the impacts of climate change; and (4) “Natural Resource Management” activities integrating nature conservation and climate change adaptation objectives. In Bangladesh, climate change adaptation activities are mostly integration of two or more of the above mentioned themes as the themes are co-related and very much dependent on each other for sustainability. For example, engaging natural resource dependent climate vulnerable communities through disaster risk reduction or diversifying their livelihood options. This is an integration of natural resource management with disaster risk reduction or livelihood option. Although there are strong linkages between adaptation and development, the long term objective of adaptation is to reduce climate change vulnerability which may not be in case of development project. We know that development is prerequisite for any kind of adaptation activity. However, development activities most of the time tend to address the problem of poverty reduction which may in some cases increase climate change vulnerability. For example, the mass introduction of shrimp farming in the Chokoria Sunderban has resulted in mangrove loss. The unique patch of 8,500 hectares of mangrove was completely destroyed since shrimp farming has started. This exacerbates the impacts of extreme events in number and strength, posing severe risks for coastal communities in Bangladesh. Therefore, we have to be careful so that development activities do not increase the vulnerability of people. Also, rather than trying to distinguish the concepts of development and adaptation, we should find out the unique characteristics and profiles of adaptation and development and use them in planning future adaptation activities more effectively.

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Climate-induced community relocation: community-based adaptation strategies to protect human rights
By Robin Bronen

Climate change is transforming our natural environment with disastrous consequences for many communities. Scientists believe that climate change will increase the duration and frequency of extreme weather events, such as hurricanes, tropical cyclones, and storm surges. The International Organization for Migration (IOM) executed more than sixty projects responding to natural disasters in twenty-seven countries across four continents in 2007 and 2008. Financial support to address natural disasters increased from one-fifth of the total funding received by IOM in 2006, to one-quarter in 2008. The Intergovernmental Panel on Climate Change predicts that 150 million people will be displaced by 2050 due to climate-induced ecological change.

Alaskan indigenous communities are at the forefront of climate-induced population displacement. Climate change is transforming Arctic ecosystems and threatening the way of life of the indigenous peoples who live along the navigable waters of Alaska's coasts and rivers. Disaster relief and hazard mitigation have been the traditional humanitarian responses to extreme environmental events. Yet government agencies are no longer able to protect communities despite spending millions of dollars on erosion control and flood relief.

In Alaska, several indigenous communities have decided that relocation is the only adaptation strategy that will protect them from the combination of climate-induced ecological changes caused by rising temperatures, thawing permafrost, and loss of arctic sea ice. Yet complex governance issues must be resolved in order to facilitate relocation. No U.S. federal or state government agency has the authority to relocate communities, no governmental organization exists that can address the strategic planning needs of relocation, and no funding is specifically designated for relocation. Despite these challenges, one Alaskan indigenous community, Newtok, is relocating.

Climigration is the word that best describes this type of population displacement. Communities, rather than individuals, will be forced to migrate. Permanent relocation will be mandated because there will be no ability to return home because home will be under water or sinking in thawing permafrost. Determining which communities are likely to encounter displacement requires a sophisticated assessment of a community's ecosystem vulnerability to climate change, as well as the vulnerability of its social, economic and political structures.

The policy and practical challenges to relocate Newtok are enormous and clearly demonstrate the need for new governance institutions that specifically respond to climate-induced relocation and protect the human rights of community residents. Severe economic, social, and environmental consequences can occur in the relocation process. Relocation can unravel the fabric of a community, weaken community institutions and social networks, disrupt subsistence and economic systems, and impact the cultural identity and traditional kinship ties within a community. A relocation policy framework based in human rights doctrine is essential in order to avoid or minimize these adverse impacts and to ensure a community's resilience after relocation. This paper proposes the design and implementation of a unique adaptive governance relocation framework based in human rights doctrine.

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Integration of Community Based Adaptation into development planning

By David O. O. Obong

Background
Uganda a party to the UNFCCC in its effort to address Climate Change (CC) issues has set up institutional arrangements including a coordination unit (CCU), under the office of the Permanent Secretary Ministry of Water and Environment, CC Policy Committee to give policy guidance and an inter institutional CC technical committee drawn from different Line Ministries/ institutions, Private sector and CSOs/NGOs among which ACCRA is represented.

The Country's National Development Plan (NDP) 2011/12-2014/15 cleary spells out the need and possible intervention areas of Climate change including the mainstreaming of Climate change into sectoral development plans and budgets apart from the Country's National Adaptation Programme of Action (NAPA) which is aimed at building community and ecosystem resillience to adverse effects of CC a step towards Community Based Adaptation.

Aim of the presentation
The speaker will discuss Uganda government's experiences in working towards integrating community based adaptation through the National Adaptation Programme of Action (NAPA) into development planning. The discussion uses evidence from Bundibugyo district, out of 3 districts following the capacity gap analysis study and community adaptation research undertaken by ACCRA (2010-2011) in collaboration with Ministries of: Water and Environment (Climate Change Unit and Department of Meteorology), Agriculture, Local government, Health, Energy and Mineral development , National Agriculture Research Organization and Office of Prime Minister- Disaster Management department

The research findings revealed that the current district development plans do not reflect localized priorities for promoting community based adaptation and climate related risk reduction measures or linking them to National priorities through line ministries. The common practice during district sectoral planning has been focusing on central funded interventions rather than their own pressing needs. It was also found districts have not benefited from national policy provisions and commitments on community based adaptation. In this case the NAPA that emphasize community based interventions through a multi-sectoral approach to enhance adaptation. Each district sector was planning independently of each other leaving climate change as an environment issue to be handled by the Environment officer and communities were not adequately involved. More so, the Natural Resources sector where environment department belongs was the least funded.

Based on these gaps, ACCRA with Ministry of Water and Environment facilitated an integrated planning capacity enhancement process for the district staff on how to identify their local adaptation priorities and integrate them into their development planning. This marks the first time, all eleven sector and specific department heads in the district, consulted communities, reviewed research findings, discussed and planned together. The result was a comprehensive five-year District Development Plan (2011-2015) with adaptation and disaster risk reduction measures integrated in each sector.

This paper highlights key lessons, challenges and recommendations from this initiative to feed into the on-going process of developing the national climate change policy and its implementation plan, and CC mainstreaming guidelines for all sectors.

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Barriers and challenges for implementing Community Based Adaptation activities: institutional, technological, social and organizational
By Charles Nyandiga

Community based adaptation as a strategy and tool to eliminate impacts of climate change is often described as the panacea for finding and implementing adaptation measures and solutions at the local and grassroots

levels. Indeed, adaptation needs is most felt and needed at the most grassroots based entities, be they individuals, households and or community level actors. For this level of beneficiaries and actors, a number of barriers and challenges are evident and needs scrutiny. The barriers could come from a suite of vulnerability that is orchestrated and demonstrated by what the most impoverished community member faces but which also has permeating effects to the social architecture, economical status of the community (s) and the associated methods and tools of trade available for their survival.

Many community based activities and actors have fallen short of recognizing, harnessing and quantifying the positive energies in the communities that come through their skills, knowledge, capacities, organizational, informal institutional structures and volunteer contributions made to community adaptation projects which are often under resourced. Instead, greater focus on community activities to adapt has focused more on its strength as a homogenous group of vulnerable individuals, their participatory nature of solving communal concerns, providing a fertile ground for testing vulnerabilities and risks assessments methodologies, piece meal support in the intervention of the perceived climate risk factors and drivers. Further, more often than not the focus understates, the roles of traditional and modern institutional setups, inherent gender roles and functions, immediate livelihoods needs, the need to capitalize on the social strengths and inherent organizational structures and strategies for multiple barrier removal of risk drivers, which is exemplified by communities either as copping strategies or short term adaptation styles.

The paper will highlight the cumulative experiences of working with over 5,000 communities from least and developing countries with varied cultural norms, institutional and organizational styles to uncover how best some of the barriers and challenges that affect widespread adaptation are handled. The demand driven and gender based approach in which the communities are the drivers of the suite of actions will fully be described and results shared. The findings are already contributing to local, sub national, national and even global debates on how to ensure successfully community adaptation strategies are generated, implemented and translated to influence policies and society values.

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Social accountability in adaptation finance: emerging country-level practices
By Sladjana Cosic

At COP17 in Durban, decisions were taken to establish and facilitate the immediate functioning of the Green Climate Fund (GCF). Resources are being mobilized with the aim of the GCF being capitalized and functioning within a few years. A significant share of the roughly $100 billion a year that Parties to the UNFCCC have agreed upon is needed to assist developing countries in undertaking actions to address the challenge of climate change. These funds are envisaged to finance their efforts in adaptation, and much of this new and additional financing is expected to flow through the GCF. But while the scale of the challenge in raising adaptation finance is enormous and politically difficult in times of global economic slowdown, it should not obscure the separate questions of how these funds would be governed, how to prioritize the use of adaptation finance at country level, and who should be involved in making such decisions.

A growing number of developing countries are already taking significant actions to develop National Adaptation Plans, building on the earlier experience of developing National Adaptation Plans of Action (NAPAs). Many are mainstreaming adaptation in national planning and budgeting frameworks. Recognizing that community based adaptation (CBA) can help address the distinct adaptation priorities of vulnerable groups in vulnerable areas, a growing number of countries are choosing to prioritize CBA within such national-level frameworks. Many governments are also seeking to engage civil society organizations (CSOs) to act as intermediaries in building community-level capacity for adaptation planning and action.

This paper considers emerging country-level practices in engaging citizens directly in the prioritization and management of public spending on adaptation. They take a variety of forms, and a diverse range of operational instruments is being applied to support them. They range from direct budget support through

development policy operations (e.g. Mexico, Vietnam), including the application of Poverty and Social Impact Analysis (PSIA) to better understand the distributional implications of various policy actions in support of climate change adaptation; to projects designed to channel support to CSOs, acting as intermediaries in enhancing community-level climate resilience (e.g. Bangladesh); to those under the Pilot Program for Climate Resilience (PPCR) that use additional adaptation finance to leverage larger investments from other public and private sources, managed through community-driven development platforms at the sub-national level (e.g. Zambia). What these approaches share in common, however, is the use of social accountability tools and approaches to ensure transparency and participation my non-state actors in decision-making and resource allocation, and that higher-level authorities are held to account for their performance. Lessons from these diverse country-level practices can help inform wider efforts to prioritize CBA in national-level adaptation planning and budgeting, which is expected to increase significantly as the GCF is capitalized and becomes fully operational.

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Scaling up Community-based Adaptation
By Matt Spannagle

National and provincial strategies and regulations to climate adaptation are essential for coordinated success, but in most cases pragmatic actions occur at the local level. AusAID, one of the biggest providers of adaptation funding in the region, has been trialling CBA in Asia and the Pacific through NGO grants, bilateral and multilateral partnerships. The time for trials and pilots is drawing to a close, and host governments and donors must find effective ways of scaling up local action. AusAID will present case-studies from the Pacific and South East Asia, including the successful piloting and adoption of a national Community Based Disaster Risk Management (CBDRM) program by the government of Vietnam and NGO partners. AusAID will also outline outstanding challenges and lessons learnt to date, including achieving scale in micro-states; facing fundamental changes in community lifestyles, and incorporating traditional knowledge with rapidly shifting circumstances.

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SESSION 24

Session 23	Plenary session 24: Identifying CBA research gaps and building a CBA community of practice
Chair	**Saleem Huq (IIED)**
Abstract 1	The Challenge Ahead of Mainstreaming Community-Based Adaptation
Presenters	Sam Bickersteth (CDKN)
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The Challenge Ahead of Mainstreaming Community-Based Adaptation
By Sam Bickersteth

The challenge going forward is how to scale-up Community Based Adaptation (CBA). If it remains a 'niche' area then it will never deliver the transformational change that it promises. Therefore, how to mainstream CBA is the question we should all start to focus on.

The Climate Development Knowledge Network (CKDN) delivers change by engaging with, supporting and strengthening the policy-making process for climate compatible development. Therefore, CDKN's concern is how to connect the 'bottom-up' to the 'top-down' approaches to adaptation?

Further research and building a community of practice will be at the heart of this.

The task is to identify the drivers of change, and pressure points, that will get CBA mainstreamed within the planning process at all levels. It will be impossible to hold on to an idea of a 'perfect' case of CBA. Instead, minimum standards or core principles of a CBA approach are required, that are capable of being scaled-up.

The community of practice on CBA that has started to develop needs to be expanded, with other sectors, and crucially also policy-makers, being brought on board. Together, this group has the skills and authority to synchronize the priorities of those with the funding, with the priorities of those that need it.

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