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Cover photo: Uganda, market © José Fernandez



**Mother and child, Uganda**

# Raising local adaptive capacity

**Susan Nanduddu** discusses how best to assess and enhance the adaptive capacity of the natural-resource dependent community of Gogonyo in eastern Uganda

**T**he community of Gogonyo, in Pallisa district in eastern Uganda, is located in an area prone to droughts and floods. This article reports on how best to increase the adaptive capacity of communities and households living here by improving their understanding of the links between livelihood systems and extreme events associated with climate change, improving existing coping mechanisms and introducing needs-based new activities and technologies, particularly amongst the poor, marginal groups and women.

## Location

Gogonyo is composed of three parishes, namely, Kachango, Gogonyo and Ajepet, and 43 villages. A new parish called Angodi is awaiting authorization. Poverty levels are high, with 67 per cent of the population living below the poverty line. Gogonyo Sub-

County is governed through a decentralized system, which operates from central government down to the district level, county level, sub-county level, parish and finally village level. Political and technical personnel help ensure services are delivered closest to the people, in accordance with the decentralization policy. However, challenges relating to

technical capacity, governance lapses and limited finances continue to limit the effectiveness of the otherwise successful decentralization policy.

The activities proposed below to increase adaptive capacity occur at various levels – from household to sub-county – depending on which level and which stakeholders (such as the political and technical authorities) are most appropriate. It is hoped, however, that learning from these activities will be shared at national, regional and international levels.

The region receives two rainy seasons a year and the average annual rainfall in Pallisa varies from 880 to 1500 millimetres. The area is mostly plateau, with numerous swamps that drain into Lake Kioga. Most land is cultivated or grassland and, therefore, without vegetation or trees.

Rain-fed agriculture is the mainstay of Gogonyo. The community grows cassava, millet, sorghum, potatoes, maize, beans and cash

## MAIN POINTS

- **The author describes** how the Gogonyo community identified how to address four existing climate-related sets of problems: poor health for humans, animals and crops; low agricultural productivity; water stress; and reduced fish stocks.
- **Participatory research** quantified the sensitivity to climate change, adaptive capacity, exposure to climate risks and current and future vulnerability.
- **She concludes** by recommending implementation approaches for the adaptation projects proposed.



**Most trees on Gogonyo have been cut down to make way for crops**

Photo: © Susan Nanduddu

crops such as rice and cotton. Livestock farming and fishing are also major livelihood sources and some small businesses operate too.

In 2009, the population of Gogonyo was projected to be 21,800, up from 17,208 in 2002. The sub-county has a good network of dirt roads but public transport is a challenge. Boda boda (bicycle and motorcycle) is widely used in addition to walking. Health services are poor and water access is inequi-

table. Some of the 24 available boreholes no longer work.

Society is patriarchal. Women are marginalized with limited access to and control over resources such as land and credit. They participate little in decision making and yet contribute most to household and community activities. HIV/AIDS is widespread; a reflection of the polygamous nature of this community but also occasional prostitution.

## **Current vulnerabilities**

A number of participatory exercises - key informant interviews, focus group discussions, resource mapping, consultation workshops and a household survey - improved understanding of climate-related problems. Household survey findings were presented back to a wide range of Gogonyo sub-county stakeholders for validation and incorporation of feedback. Resource-poor farmers, fishermen, women, youths and other local stakeholders identified a number of climate-related and environmental problems. The community pointed out that, until the 1980s, changes in weather were very predictable and there were two clear seasons. Key problems included the remarkable changes to seasons observed and the increase in droughts and floods, which lead to food and income insecurity.

The impact of these changes can be divided into four categories: poor health for humans, animals and crops; low agricultural productivity; water stress; and reduced fish stocks. These operate in addition to existing vulnerability drivers including a high dependence on subsistence rain-fed crop farming and herding, land degradation, high poverty rates, governance lapses, population pressures and inequitable access to water. Poor and marginal groups are at the greatest risk, and limited local technological support and capacity levels mean that the frequent crop failures and low yields cannot be prevented.



## Relative current and future vulnerabilities

Household surveys explored sensitivity to climate change, adaptive capacity and exposure to climate risks. Household adaptive capacity and sensitivity levels were measured by proxy using the following six indicators: education levels of household members; wealth rank; mean household size; food security; livestock resources; and climate change impacts on health. The analysis of exposure to climate risks was based on how households felt drought, flooding and excessive rainfall events had affected their homesteads, agricultural land and resources. A vulnerability analysis then compared sensitivity and adaptive capacity on the one hand, with exposure to climate change risk on the other.

To get a sense of vulnerability at the community level, ratings and weighted indices were aggregated for each parish. Two vulnerability scenarios were constructed: one based on current community vulnerability to climate change and the other based on future anticipated vulnerability. In the first scenario, wealth and flooding indicators were weighted most highly and results showed that Ajepet Parish had the lowest resilience and adaptive capacity, followed by Gogonyo. Angodi Parish stands a comparatively better chance of responding to climate change impacts. The second scenario weights food security and flooding more strongly. Based on this scenario, Gogonyo is by far the most vulnerable parish, largely because it is lower-

lying and thus more vulnerable to flooding than Ajepet. None of the parishes, however, demonstrated a high capacity for resilience, and overall vulnerability was high. These results have important implications regarding the adaptation measures taken and needed, along with information on appropriate entry points for any external adaptation assistance.

## Existing coping strategies

One of the noticeable adaptation measures has been the extension of agricultural land into the wetland system as the water recedes. At Nakuwa wetland, areas have been cleared for maize, cassava and, significantly, paddy rice production. This improves household food security but it does not reduce com-

munity vulnerability to floods. It may also be a maladaptation since it leads to further draining and destruction of the wetland ecosystem. Rice features on some household menus these days but is also used as a cash crop. This can help offset the risks of crop-loss due to flooding. Some community members are using improved seeds, especially cassava, and organized groups have in some instances received external support, from both government and non-government organizations, for example, for tree and crop seedlings and training.

Livestock farmers practice traditional migration, but this can increase conflict and expose livestock to diseases. Climate forecasts help locals adjust when to move animals long distances to water and pastures. Sometimes



Resource mapping by the Gogonyo community

Photo: © Susan Nanduddu

animals are moved to lake islands during drought periods and only moved back when it starts to rain.

Community members reported behavioural changes such as having one meal a day or relying on mangoes or just water for a meal. Many people worked as casual labourers - including children who were kept out of school - to secure enough food for the day,

and others migrated elsewhere in search of better livelihoods.

### Needs assessment and planned activities

Global climate change model predictions for changes in temperature and rainfall for the region vary and it is important to note that these models operate at a global scale and

that regional-level models are not yet available. It is, therefore, impossible to know for sure what future changes in climate Gogonyo can expect. Analysis of rainfall data based on actual recordings from ground stations indicates an increase in rainfall in recent times.

Despite this uncertainty, the Gogonyo community was able to identify what needed to be done to address the four major existing

## ADDRESSING THE INCREASED INCIDENCE OF DISEASES

Risk and vulnerability	Suggested coping strategies	Possible constraints on adaptation	How to overcome the challenges
Increased incidence of animal diseases, particularly trypanosomiasis and tick-borne diseases. Tsetse fly range has increased. Reduced pastures leading to animal malnutrition.	Construct a local cattle dip and get veterinary services closer to the community. Build private sector partnerships to do this.	The community may not be able to afford the cost of veterinary services or drugs for dipping.	Work closely with district staff to support community access to drugs and veterinary services. Explore creative and flexible funding opportunities for farmers, such as local savings groups.
High prevalence of crop pests and diseases. Potato caterpillars are new, the cassava mosaic and brown streak viruses are highly widespread and occur almost every season now (as opposed to three decades ago when they were rare). Striga weed infestations reduce cereal outputs.	Promote integrated pest management practices (including soil improvement, good crop hygiene, conservation of natural enemies) through field visits, training, radio, demonstrations. Promote disease-resistant and striga-resistant crop varieties. Crop rotation to control striga. Work with research institutions to identify resistant crop varieties. Seed multiplication gardens for resistant varieties with easy community access.	Widespread use of traditional farming practices. The community may not be able to afford the costs involved. Population pressure on the land. Poor quality interventions.	Extension support – working closely with local government. Collaborate with those introducing interventions. Use new technologies.
Human diseases: malaria is highly prevalent and resistant to interventions. This is exacerbated by other stresses including malnutrition, HIV/AIDS and diarrhoeal diseases.	Good nutrition and sanitation interventions (sensitization and education through radio, targeted training, group work). Preventative measures. Promote vegetable growing and inclusion in household diets.	Preference for fish over vegetables. Failure to use knowledge gained from sensitization and education.	Work closely with district health service officers to promote knowledge about nutrition. Lobby for by-laws on sanitation.

## ADDRESSING LOW AGRICULTURAL PRODUCTIVITY RESULTING FROM ADVERSE WEATHER CONDITIONS

Risk and vulnerability	Suggested coping strategies	Possible constraints on adaptation	How to overcome the challenges
Frequent and prolonged droughts in recent years have desiccated whole crops and starved animals due to the lack of fodder and pasture.	Drought-resistant crop varieties. Introduction of new/alternative foods. Soil fertility and land management interventions (erosion control, use of legume cover crops, agroforestry, compost manure, mulching, fertilizer use, conservation tillage). Train community members to run small inorganic fertilizer businesses. Arrange exposure visits to areas with good soil fertility management. Small-scale irrigation. Developing and disseminating weather information. Tree planting to diversify livelihoods (fruit and fodder trees), provide fuel and tap into future carbon markets. Household fodder banks. Promoting renewable energy sources. Promote integrated crop-livestock systems.	Variety preferences based on other variables like taste and yields. Improved seed varieties are too expensive. Lack of locally-specific reliable weather data. No land to plant trees due to competition with crops and grazing. Problems identifying and adopting renewable energy sources.	Provide communities with improved seeds and legume cover crop seeds. Training and sensitization. Extension support. Initiating a community-based weather data collection system. Linking communities to the carbon market in Uganda. Research to identify and share renewable energy sources.
Floods are more common due to erratic rains. Effects include crop losses and livestock diseases.	Promote flood-tolerant crops. Better land management practices (soil and water conservation, soil erosion mitigation). Develop and disseminate weather information. Plant trees in low-lying areas to attenuate floods. Preservation and wise management of remaining wetlands.	Lack of locally-specific reliable weather data for early warning measures. No collective commitment to land management. No land to plant trees. Poor enforcement of rules regarding sustainable wetland use.	Provide the community with weather observation and recording tools and educate people on their application. Advocate for more accurate meteorological services. Adopt a catchment approach to land management. Sensitization and training. Collaboration with the District Environment Office.
Food insecurity has resulted from droughts and floods. Communities have one meal a day and domestic violence has increased as men demand food.	Introduce drought-resistant crop varieties and new/alternative food sources. Soil fertility and land management interventions (as above).	Some new seed varieties that mature fast and are disease-resistant do not meet other community requirements (for example on taste) so people stick to traditional varieties. Improved seed varieties are too expensive. Limited knowledge and skills on appropriate farming methods.	Providing communities with improved seeds and fodder. Training and sensitization (for example, on changing daily food intake to more climate-change-resistant crops). Extension support.
Low household incomes from low productivity and limited livelihood options.	Promote alternative livelihood sources. Lobby the sub-county for larger budget allocations for agriculture. Empower communities to participate in planning so that plans reflect their priorities. Help households diversify production. Support development of farmers' institutions to boost production, address farmers' issues and access markets.	Communities lack startup capital, and skills and knowledge regarding planning, lobbying, advocacy and institutional development.	Help communities access startup capital. Promote farming as a business. Support formation of farmers' institutions. Train communities in planning, lobbying and advocacy.

## ADDRESSING WATER STRESS RESULTING FROM FREQUENT DROUGHTS

Risk and vulnerability	Suggested coping strategies	Possible constraints on adaptation	How to overcome the challenges
Underground water levels have fallen, sources of potable water are drying out, the community spends much time queuing and collecting water from far away.	Rainwater harvesting for domestic use (storage tanks, water jars, roof catchments and runoff collection). Tapping into underground water (including home-based wells and pumps).	Communities may not be able to afford technologies.	Help communities acquire new technologies.
Inadequate water for production.	Rainwater harvesting for production (valley dams). Introduction of micro-irrigation systems such as drip systems.	Communities may not be able to afford technologies.	Introduce new technologies and help communities to use them.

climate-related sets of impacts being experienced. These are presented in the accompanying tables.

### Proposed implementation approaches

Priority areas need identifying to guide the planned implementation. Importantly, this

must be in line with community schedules, such as the seasonal calendar of local activities. Implementation should occur by working with organized community groups to encourage learning and sharing. Where strong and active, existing parish groups should be used. Alternatively, other groups should

be formed round livelihoods (pastoralists, agro-pastoralists, crop farmers, fishermen *et cetera*).

Groups may need training and mentoring to develop group cohesion, but also in project monitoring. Training in monitoring will need community-generated progress

## ADDRESSING REDUCED FISH STOCKS

Risk and vulnerability	Suggested coping strategies	Possible constraints on adaptation	How to overcome the challenges
Receding lake and wetland water levels (due to drought and siltation) exposing fish breeding sites and reducing fish stocks.	Help communities understand and implement the Fisheries Management Plan.	Locals prefer the lake to proposed alternative fisheries development plans (aquaculture and fish pond construction).	Review the Fisheries Management Plan.
Overfishing of available water sources in efforts to survive.	Introduce alternative sources of livelihood. Help communities understand and implement the Fisheries Management Plan. Strengthen Beach Management Units to implement the Plan. Promote fish caging.	Communities lack startup capital and skills in business management. Politics affects implementation of the Fisheries Management Plan. Locals prefer the lake to alternative fisheries development plans.	Help communities with startup capital for agro-based enterprises. Provide business development training. Support implementation of the Fisheries Development Plan. Introduce alternative fish breeding methods like caging. Collaborate with the Fisheries Department to improve Plan enforcement and operationalization.



indicators and project targets to enable the community to keep track of progress and measure changes against target household baselines. The project team and community members could be trained in participatory video monitoring, including how to use a video camera and editing, to help with this.

Training to help the community record trends in the weather will also be needed and will result in monthly weather reports to inform future programming. This will later be used together with scientific knowledge from the Department of Meteorology to increase understanding of the risks posed by climate change. Specific technical training on issues such as soil infertility, business skills development, rainwater harvesting or credit and savings management may also be needed. Participatory training methods will be used where possible in order to maximize the extension of knowledge and skills to project beneficiaries. Because adults learn better through observation and shared experiences, farmer to farmer field visits should also be organized.

To raise climate change awareness at the community level, meetings, radio talk-shows, music, dance and drama should be used to educate the community about the causes of climate change and its current and future impacts. This will influence decision-making processes ultimately to reduce vulnerability.

Early warning mechanisms are essential for informing farmer decision-making processes, so the project should prioritize this.

This will involve working closely with the Department of Meteorology and other institutions with weather equipment to make them operational. For example, the Pallisa Farmers Association has equipment it has never utilized, and schools within Gogonyo could also be encouraged to use any equipment they have. Volunteers who can observe and record daily weather data will be needed for this.

Measuring whether progress is being made towards achieving project objectives, outcomes and outputs and assessing the relevance of the project towards improving people's livelihoods will be crucial. This will help generate learning to improve project implementation. Monitoring and evaluation will involve a range of methods such as interviews with project beneficiaries, field visits, regular reports, interviews with key informants and research studies. Links with Makerere University could provide students who can not only learn from the project, but help with monitoring, documentation and dissemination of findings. ■

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# Africa's future

**Michael Bernard Kwesi Darkoh** explains how sustainable development with mitigation and adaptation provides the best way forward for African nations

In Africa, the realities of climate change and global warming are no longer debatable issues. The evidence is clear. Weather patterns are becoming increasingly volatile and resulting in more droughts and floods and higher air and water temperatures. Sea levels are rising and coastal areas are eroding and experiencing saltwater intrusion and flooding. Lake Chad, once the sixth largest lake in the world, has shrunk by 95 per cent in the past 35 years. The icecap on Mount Kilimanjaro is fast disappearing with serious implications for the rivers that depend on ice melt for their flow. Glaciers on the Ruwenzori Mountains and Mount Kenya have shrunk, respectively, by 50 per cent and 40 per cent since the 1960s and a number of seasonal rivers that used to flow from them have dried up. If current trends continue, these mountain icecaps and glacial water reservoirs will disappear within some two to three decades, with many deleterious conse-

quences for dependent human livelihoods in surrounding areas.

Africa is particularly vulnerable to climate change due to the extreme poverty of many Africans and a heavy dependence on rainfall and other natural resources. Agriculture is the most important economic sector in most African countries. Because most agri-

## MAIN POINTS

- **The author describes** the strong links between climate change and sustainable development in Africa.
- **He promotes** sustainable development in tandem with mitigation and adaptation strategies as the best way forward for African countries.
- **He stresses that,** despite the failure of the Copenhagen summit, developed countries must recognize their responsibility for climate change and honour their commitments to implementing National Adaptation Programmes of Action.

culture is subsistence with high dependence on rainfall, it is highly vulnerable to changes in climate variability, seasons and precipitation patterns. The threat to food security is particularly great in the arid and semi-arid Sudano-Sahel zone and eastern and southern African regions where desertification threatens and *per capita* food production has been steadily declining. As agricultural yields continue to drop by as much as half in some of these areas, other sources of income are needed. Competition for access to resources results, leading to displacement, mass movement of people within countries and across borders, heightened social tensions and in many cases, conflicts.

Africa is well known for its rich natural resources, especially its wildlife, varied ecosystems, and picturesque landscapes. Natural systems are already under threat, however, and climate change will exacerbate existing losses due to land degradation, deser-



**Mount Kilimanjaro**

Photo: © Mohamed Somji

tification and drought. Climate change is already changing habitats and causing species migration and extinction of both flora and fauna. Environmental resources such as wetlands, grasslands, woodlands and wildlife provide the foundations on which burgeoning tourism activities in several dryland African countries, such as Kenya, Botswana and South Africa, are built. Climate change

impacts on these environmental resources threaten the continued growth and development of tourism.

The human health sector in many African countries has been directly affected by climate change. Infant malnutrition and chronic ailments associated with malaria, cholera and diarrhoea are linked to droughts and floods. Malaria in particular has been a

major public health scourge in Africa and has made a spectacular comeback in recent years. Malaria areas where the mosquitoes occur seem to have been growing larger, possibly because of global warming and changing rainfall patterns. Despite this, awareness within health sectors of the potential impacts of climate change on human health is generally low and very few national or local assessments of the impacts of climate change on human health have been undertaken.

### **Links to sustainable development**

Africa is highly vulnerable to the adverse impacts of climate change, especially droughts and floods. Climate change is already undermining economic development, increasing poverty and impeding development efforts in key sectors. For most rural people, especially in dryland areas, climate change is making their already difficult lives impossible. The situation is exacerbated by increasing poverty amongst rural communities, rising population pressures on limited resources, land degradation arising from agricultural expansion and the cultivation of marginal lands, and increasing deforestation to meet rising demands for energy, food and construction materials. Climate change interacts with these disabling factors to inhibit sustainable development in Africa.

Other factors also exacerbate and accelerate the effects of climate change and make adaptation and coping strategies extremely difficult. These include the debt burden,

structural adjustment policies, trade liberalization, conflicts, poverty and diseases such as malaria and HIV/AIDS. The spread of HIV/AIDS weakens people's ability to respond to the changing climate, in turn leading to further poverty and more desperate survival measures. Thus, climate change, poverty and HIV/AIDS are intricately linked.

The most vulnerable groups are rural communities, children, female-headed households and the elderly. Women in Africa have multiple roles as farmers and collectors of water and fuel wood and so depend directly on natural resources. Their position in society means, however, that they have less access to income and credit than men and little or no voice in decision making. Some women, therefore, resort to selling sex for food during the hungry months before the harvest.

### Pathway for the future

In spite of Africa's low adaptive capacity, some communities have developed traditional adaptation strategies. For example, in response to the desiccation and decreasing rainfall observed in the Sahel since the late 1960s, farmers have shifted to varieties of millet and maize with shorter growing cycles and abandoned crops like groundnuts that need higher rainfall. There are many other examples of the rich heritage of traditional adaptation strategies and social networks that African communities have developed to cope with climate variability and extreme events and improve adaptive capacities: tradition-



**Niger, Sahel region - pounding millet**

Photo: © etrenard/flickr

al pruning and fertilizing techniques have doubled tree densities in parts of Senegal, Burkina Faso, Zimbabwe and Madagascar; diversification of herds and incomes through the replacement of goats with sheep has occurred in Western Sudan; reliance on forest products has acted as a buffer to climate-induced crop failure; and decentralization of local governance of resources and manipula-

tion of land use strategies leading to land use conversion has occurred elsewhere.

Fortunately, Africa is still not heavily polluted and is not a major source of greenhouse gas emissions. But African countries must limit their contributions to the climate change problem by ensuring greenhouse gas emissions do not grow unacceptably. Promoting sustainable development in tandem

with mitigation and adaptation strategies provides the best way forward. Adaptive capacity enhancement must take place through the broad framework of sustainable development, taking both environmental and socio-economic considerations into account.

African countries need to mainstream adaptation, with governments incorporating it into any future expenditure and development planning. Legislative and government structures must also incorporate sustainable development and climate change responses - such as mitigation and adaptation - into their bureaucratic processes. They must develop new and existing capacities to cope with climate variability and change so as to increase the resilience of societies, natural systems and economies. Approaches to climate change adaptation that are based on top-down development models, which often have little relevance to local conditions, should be avoided. More effort is needed to strengthen the capacity and develop the knowledge of local people, and to develop techniques that integrate both scientific and indigenous knowledge.

Research on climate vulnerability, and what approaches could maximize resilience at regional, national and local levels, is limited. Consequently, there is an urgent need for comprehensive research to map out the complex impacts of global warming, integrating climate change risks with other vulnerabilities to problems such as desertification and disease. Links between

climate variability, air pollution and the occurrence and incidence of respiratory and vector-borne diseases need exploring as does the impact of water scarcity in areas such as the drylands of Africa.

African countries should implement sustainable development policies that prioritize energy efficiency and renewable energy. The Clean Development Mechanism (CDM) allows industrialized countries to meet their carbon offset obligations by investing in projects that reduce emissions in developing

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**“promoting sustainable development in tandem with mitigation and adaptation strategies provides the best way forward”**

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countries as an alternative to more expensive emissions reduction projects in their own countries. The CDM needs to be promoted as a way to improve energy efficiency in industrial operations and it also opens up new opportunities to generate revenue for entrepreneurs and governments and to diversify economies.

The development of biofuels in African countries provides both an opportunity and a threat. An assessment is needed of the carbon benefits of different biofuel schemes, the risk of deforestation and socially negative impacts, and whether or not there is competition for land between growing fuel or food.

To help mitigate climate change and maintain valuable ecosystems, African nations should reduce and eventually halt defor-

estation. More stringent measures to protect Africa's rainforests from unsustainable logging and environmentally destructive development, including agricultural expansion, are needed. More protection for biodiversity and ecosystem integrity in mountain regions is also needed.

Dramatically increased support for small-scale agriculture is necessary, with diversification encouraged because diverse systems are more resilient and more productive than monocultures. Boosting production requires

systems that combine new insights and technologies with the wisdom of tradition. The dangers associated with clearing forest land and planting biofuels as opposed to food crops should be avoided.

National Adaptation Programmes of Action (NAPAs) were established as a part of the Marrakech Accords in 2001, in recognition of the particular vulnerability of the Least Developed Countries (LDCs) to climate change. NAPAs provide a process for the LDCs to identify, communicate and respond to their most urgent and immediate adaptation needs. Many African countries have since submitted their NAPAs to the United Nations Framework Convention on Climate Change, and hope to receive support for implement-



ing their NAPA projects. Despite progress on the development of NAPAs, however, the implementation of NAPA projects has been slow, largely owing to functional problems between countries and implementing agencies. It is vital that NAPA projects receive the financial and institutional support they require from donors, governments and climate change institutions in order to build LDC resilience.

### Conclusions

Climate-change-induced impacts are already undermining Africa's ability to develop, and they have the potential to weaken Africa's adaptive capacity and compromise development efforts in key sectors of the region's economy. They could reduce livelihood security and delay or prevent the realization of the Millennium Development Goals. African countries must take the initiative in crafting development strategies that encompass the need to mainstream and boost adaptation to climate change as well as invest in infrastructure, clean energy, health, research and other sectors that are central to national development strategies.

African governments should strengthen institutional mechanisms for more effective coordination of climate change adaptation and disaster risk development programmes, establish budgetary allocations to finance climate adaptation projects, prioritize agriculture and related activities in climate research, and strengthen local capacity

building in climate change forecasting. Non-governmental organizations and civil society groups can play a major role in strengthening local capacity to cope and supporting local action. They should work together to build community-based climate change adaptation and disaster risk reduction and to strengthen advocacy at national levels.

Rural communities and women are the worst affected by, and least able to cope with, climate change impacts. The foundation of any initiative to address climate change, therefore, hinges on rural communities and women being aware of the issues, involved in any initiatives, owning the process of adaptation and having the capacity to undertake and maintain adaptation activities. Enabling political and institutional frameworks are needed to make this happen.

At the global level, the failure of the recent Copenhagen summit to achieve tangible outcomes and binding commitments from the developed nations in combating climate change has come as a surprise and a disappointment, especially to developing African nations. These poor countries are suffering tremendous impacts despite having contributed the least to the problem. Despite the failure of the summit, however, developed countries must recognize their responsibility for climate change, eschew empty rhetoric and honour their NAPA commitments to poorer African nations. ■

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### FURTHER INFORMATION

● This article is based on a paper presented at the Pre-Valedictory Workshop in honour of Professor J B Opschoor on Climate Change and Making Development More Sustainable held at the Institute of Social Studies, The Hague, The Netherlands, June 4th 2009.

## COPENHAGEN

**Current pledges to limit national greenhouse gas emissions under the Copenhagen Accord are likely to result in global warming of three degrees Celsius or more, far above the Accord's two degree target, according to researchers from the Potsdam Institute for Climate Impact Research (PIK) in Germany.**

"It's amazing how unambitious these pledges are," the analysts commented. "Forty-eight gigatonnes of carbon dioxide emissions is not on track to meet the two degree Celsius goal - it is like racing towards a cliff and hoping to stop just before it," said Malte Meinshausen from PIK.

*Read more:*  
[tinyurl.com/23a5xk4](http://tinyurl.com/23a5xk4)

## INUIT DATA

**A new study has used data to confirm Inuit observations that Arctic weather is becoming less predictable. "I've been hearing these reports from the Inuit probably since the late '90s," said Betsy Weatherhead from the University of Colorado, United States.**

"My colleagues would give these presentations saying, 'The Inuit are saying this, and I don't see it. The data isn't showing it.'" By analysing weather data in terms of short-term, day-to-day variability, Weatherhead showed that there had been a decrease in persistence since the 1960s that was consistent with the Inuit observations.

*Read more:*  
[tinyurl.com/2c6y9gu](http://tinyurl.com/2c6y9gu)

## AFRICAN UNION

**Ethiopian prime minister Meles Zenawi, chief negotiator for Africa, has identified two issues that must be addressed before the next major climate summit in Cancún. "One is that the mechanism through which Africa negotiates as a single team is completely an unprecedented thing for us, the second is the implementation of the Copenhagen accord and its financial provisions in particular. "**

"Even if the African Union Summit endorsed the Copenhagen accord there is a widespread scepticism about the implementation of the accord," he continued.

*Read more:*  
[tinyurl.com/279r9f7](http://tinyurl.com/279r9f7)

## VICTIMS VOICES

**Bolivia's ambassador Pablo Solón has expressed concern over the current United Nations climate negotiations, saying that the voices of the real victims of climate change are being excluded from the negotiations.**

"In April 2010 more than 35,000 people from 140 countries gathered in Cochabamba, Bolivia and developed the historic Cochabamba People's Agreement," he said. "We are deeply concerned that the new text proposed as a basis for climate change negotiations does not reflect any of the main conclusions reached in Cochabamba," he continued.

*Read more:*  
[tinyurl.com/22lcyllh](http://tinyurl.com/22lcyllh)

## STUDY BLOCKED

**Saudi Arabia blocked a call at the Bonn Climate Change Talks by the Association of Small Island States for a study into the impact of 1.5 degrees Celsius global warming.**

"Some small island states could become stateless from sea level rise, which is why they are calling for global temperature rise to be kept below 1.5°C," commented Wendel Trio of Greenpeace. "That Saudi Arabia... exploited the United Nations consensus rule to stop the world's most vulnerable countries from getting a much-needed summary... is breathtaking for its criminal disregard for the human impacts of climate change," he concluded.

*Read more:*  
[tinyurl.com/2bgc4m9](http://tinyurl.com/2bgc4m9)

# Preparedness workshops

## **Bettina Koelle** describes how climate change preparedness workshops have contributed to learning for adaptation in South Africa

**T**he small-scale farmers of the Suid Bokkeveld, South Africa, experienced a severe drought between 2003 and 2006. Although they had experienced severe droughts in the past, the farmers decided to improve their understanding of weather patterns, different microclimates and the seasonal forecasts published by the South African Weather Bureau. Thus, in 2004, they embarked on a learning journey. This journey included regular meetings in quarterly climate change preparedness workshops.

Every three months, the farmers would get together and discuss the weather patterns that they had observed, the seasonal weather forecast, what changes had been observed and what strategies could be applied to make their farming practices and thus their livelihoods more robust. Two local non-government organizations, Indigo development & change and the Environmen-

tal Monitoring Group, and the local small farmers' cooperative, Heiveld Cooperative Limited, provided active support for the process over the years.

Initially, in 2004, these workshops were small and relatively informal gatherings, but over the years they grew into important events on the community calendar. This short article describes the methodology ap-

plied by Indigo development & change and the Environmental Monitoring Group. It aims to inspire others to embark on similar learning journeys and to improve insights into how to use seasonal forecasts and understand variability in weather patterns, and how to design adaptation measures for increased resilience of livelihoods.

### **Setting the scene**

It is important to emphasize that the non-government organizations involved did not facilitate these workshops in isolation, but that a rich learning process was already underway. This focused mainly on rooibos tea farming and marketing, centring on the Heiveld Cooperative and its members. More detail on this can be found in issue 68 of *Tiempo* in the article 'Tea farming in South Africa' by Adèle Arendse and Rosa Blauw. The climate change adaptation workshops were strongly linked to these other processes,

### **MAIN POINTS**

- **The author describes** how small-scale farmers in South Africa embarked on a learning journey in 2004, which included regular quarterly climate change preparedness workshops.
- **She explains how** these workshops contributed to learning and planning for adaptation.
- **She stresses** that workshop success depends on facilitation that provides a light and positive learning experience that is shaped and conducted by the participants themselves.



**Discussions should be steered by workshop participants to ensure ownership of the workshops**

Photo: © Bettina Koelle

which gave a sharp focus to the questions raised by the farmers.

Importantly, the complex challenges facing small-scale farmers necessitated the use of integrated approaches. It was also crucial to ensure that the focus of activities was guided by the farmers themselves, and that the questions discussed were fully owned by them.

### **Preparing the workshop**

Preparations for the workshops were done in collaboration with a local organizing

committee, which assisted the local non-government organizations with planning and contributed creatively to the learning process. Transport is a major challenge for people in the Suid Bokkeveld, as people live scattered across the vast plateau without access to public transport or their own vehicles. An important part of the preparations thus focused on ensuring everyone in the area knew about the workshop and felt welcome to attend and that viable arrangements for transport to and from the workshop venue were available.

### **Workshop elements**

The workshops aim to address various technical and climate- and livelihood-related issues, whilst also fulfilling a range of needs such as the need for information, participation, understanding, idleness, identity, affection and subsistence. Workshop elements can be amended as needed, depending on the requirements of the farmers.

- **Input on a specific topic:** a resource person is invited to share their insights on a topic agreed to at the previous workshop. After this input, the next learning topic is discussed and identified. This can also be a joint experiment in the field.
- **Sharing monitoring data:** seasonal calendars are drawn up as part of the workshop process, and farmers share their perceptions of the climate over the past three months and how this has affected their farming and livelihood strategies. Farmers are also asked to reflect on what else has affected them and prevented them from implementing their planned activities. These calendars are compiled by farmers living in a similar area and then presented back to plenary.
- **Seasonal forecasts:** the three-monthly forecasts for the previous quarter are then reviewed to assess how accurate they were for different areas and microclimates. After a discussion, the three-monthly forecasts for the coming quarter are presented and discussed.



**Presenting the climate calendar to the wider community is an important moment of sharing and can lead to creative solutions**

Photo: © Bettina Koelle

- **Discussing farming strategies:** in the light of these discussions, the farmers share strategies for dealing with extreme weather events and other challenges.
- **Report back from research activities:** this is an opportunity for farmers and scientists to report on their current research activities and to discuss reflections and findings. Participatory Action Research processes are powerful tools here because they provide a rich opportunity for joint learning and sharing of outcomes and findings. Practical research and experimentation can be reviewed, possibly including a field trip.
- **Lucky draw:** participants can win an environmentally-friendly piece of technol-

ogy, such as a wind up torch or hot box, by winning a climate- or farming-related competition.

- **Energizers:** to ensure there is a warm learning atmosphere, energizers are important to keep the mood light and open.
- **Next meeting and steering committee agreement:** the venue and shape of the next meeting is discussed and agreed, along with who will serve on the steering committee for the preparations.
- **Joint lunch:** the workshop ends with a joint lunch. This provides an opportunity to connect and discuss ideas and plans further or just to socialize.

Crucially, the overall facilitation process must provide and maintain a light and positive learning experience that is shaped and conducted by the participants.

### **Maintaining the momentum**

In between the quarterly workshops it is important to move forward with experimentation and other ongoing processes. This is also the time to follow up on activities the workshop had decided to take forward, such as a specific research issues, or forming a funding proposal. In summary, the workshops can provide an important learning platform, but only if all parties involved are equal and trusting partners in the process. ■

### **ABOUT THE AUTHOR**



• **Bettina Koelle** is director of Indigo development & change, a South African non-government organization working in the rural areas of the Northern and Western

Cape focusing on climate change adaptation and capacity development to increase resilience.

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**Web:** [www.indigo-dc.org](http://www.indigo-dc.org)



# CONFERENCES

## **2010 International Climate Change Adaptation Conference - Climate Adaptation Futures Gold Coast, Australia** **29-06-2010 to 01-07-2010**

Working theme of the conference is "Preparing for the unavoidable impacts of climate change". Co-hosted by the Australian National Climate Change Research Facility and the CSIRO Climate Adaptation Flagship. One of the first international forums to focus solely on climate impacts and adaptation, bringing together scientists and researchers from developed and developing nations.

*Details: Conference Secretariat, YRD (Aust) Pty Ltd, PO Box 717, Indooroopilly, Qld 4068, Australia.*  
*Fax: +61-7-33682433*  
*Email: nccarf-conf2010@yrd.com.au*  
*Web: www.nccarf.edu.au/conference2010*

## **5th International Conference on Environmental Science & Technology Houston, USA** **12-07-2010 to 16-07-2010**

Sponsored by the American Academy of Sciences, the conference aims to provide a platform for environmental scientists, engineers, management professionals and government parties to discuss the latest developments in environmental research and applications. Session topics include: water pollution and water quality control; air pollution and air quality control; glo-

bal change; wetlands; ecosystem assessment and restoration; and society and the environment.

*Details: Environmental Conference Program, American Academy of Sciences, 9720 Town Park Drive, Ste 18, Houston, Texas 77036, USA.*  
*Email: env-conference@aaasci.org*  
*Web: www.AASci.org/conference/env/2010*

## **6th Australia-New Zealand Climate Change & Business Conference**

**Sydney, Australia**  
**10-08-2010 to 12-08-2010**

The New South Wales government is the foundation sponsor and the conference is to be held at the Sydney Convention and Exhibition Centre. The conference will include discussion and debate on international developments, policy outlook and impacts, best practice responses and the challenges of adaptation and how they are all linked together. Sponsorship and exhibition opportunities are available and it is advised that interested parties contact the organizers as soon as possible.

*Details: Conference Organizer, Climate Change & Business Centre, PO Box 375, Collaroy, NSW 2097, Australia*  
*Email: secretariat@climateandbusiness.com*  
*Web: www.climateandbusiness.com*

## **ISEE 2010 Conference: Advancing Sustainability in a Time of Crisis Oldenburg & Bremen, Germany** **22-08-2010 to 25-08-2010**

The 11th biennial conference organized by the International Society for Ecological Economics will be held in the adjacent cities of Oldenburg and Bremen. Main subjects for presentations and discussion include: climate change; energy; biodiversity and ecosystem services; sustainable development; land use; green business; environmental ethics and values; and ecology.

*Details: Bernd Siebenhuner, School of Computing Science, Business Administration, Economics and Law, Carl von Ossietzky University of Oldenburg, 26111 Oldenburg, Germany.*  
*Fax: +49-441-7984379*  
*Email: bernd.siebenhuner@uni-oldenburg.de*  
*Web: www.isee2010.org*

## **XXIII IUFRO (International Union of Forest Research Organizations) World Congress**

**Seoul, Korea**  
**23-08-2010 to 28-08-2010**

Working theme of the Congress is "Forests of the Future: Sustaining Society and the Environment". Will include plenary and sub-plenary sessions, technical sessions and poster sessions. The 126 technical sessions will feature latest advances in forest science covering projects and research conducted by leading forest scientists and experts in the various related fields. Congress will

also have available specific tours and a trade exhibition.

*Details: IUFRO Secretariat, Hauptstrasse 7, A-1140 Vienna, Austria.*  
*Fax: +43-1-877051.*  
*Email: office@iufro.org*  
*Web: www.iufro2010.com*

## **2010 World Water Week: The Water Quality Challenge Stockholm, Sweden** **05-09-2010 to 11-09-2010**

Programme will include celebrations and the Stockholm Water Prize as 2010 will be the 20th anniversary of World Water Week. The eight workshops will include themes such as: integrated pollution prevention and control; water quality for human health; improved water use efficiency through recycling and reuse; resilience, uncertainty and tipping points; and minimizing land use based pollution, amongst others.

*Details: Stockholm International Water Institute, Drottninggatan 33, 111 51 Stockholm, Sweden.*  
*Fax: +46-8-52213961.*  
*Email: secretariat.www@siwi.org*  
*Web: www.siwi.org*

## **International Rivers Conference 2010**

**York, UK**  
**06-09-2010 to 09-09-2010**

An international conference organized by the Nature Conservancy Council that aims to assess progress and lessons learnt since the 1990 con-

# CONFERENCES

ference "The Conservation and Management of Rivers". Some of the topics for discussion are: ecosystem integrity; philosophy of conservation; new methods and approaches; adaptive management; relevance of climate change; evidence-based management and monitoring; and public involvement.

*Details: Zena Bailey, Joint Nature Conservation Committee, Monkstone House, City Road, Peterborough PE1 1JY, UK.*

*Email: zena.bailey@jncc.gov.uk  
Web: www.jncc.gov.uk/page-4902*

## **Storm Surges Congress 2010: Risk & Management of Current & Future Storm Surges**

**Hamburg, Germany**  
**13-09-2010 to 17-09-2010**

Two major questions will be discussed and debated regarding the frequency and effects of storm surges. First, how to deal with the present level of risk and, second, how to respond to changing future conditions. Will look at the interdisciplinary approaches and strategies in dealing with this issue.

*Details: Conference Organizer, GKSS-Research Center, LOICZ International Project Office, Institute for Coastal Research, Max-Planck-Str 1, 21502 Geesthacht, Germany.*

*Fax: +49-4152-872040.  
Email: loicz.ipo@loicz.org  
Web: www.loicz.org*

## **International Conference: Deltas in Times of Climate Change**

**Rotterdam, The Netherlands**  
**29-09-2010 to 02-10-2010**

Organized by the Climate Changes Spatial Planning and the Knowledge for Climate Research programmes together with the city of Rotterdam and the C40 (a group of the world's largest cities committed to tackling climate change). Scientists, politicians, policy makers and practitioners are invited to share in debate and discussions on their knowledge and experiences of climate adaptation.

*Details: Conference Organizer, Programme Office Knowledge for Climate, PO Box 47, 6700 AA Wageningen, The Netherlands.*

*Email: o.van.steenis@programmabu-reauklimaat.nl  
Web: www.climatedeltaconference.org*

## **The 9th International Workshop on Large-Scale Integration of Wind Power into Power Systems**

**Quebec, Canada**  
**18-10-2010 to 19-10-2010**

The international event will also encompass Transmission Networks for Offshore Wind Power Plants and will be held completely in English. A field trip is organized for 16th October. Provides a forum for discussion of technical and economic issues together with recent advances in transmission technologies as well as allowing participants to discuss ideas, network and share experiences.

*Details: Thomas Ackermann, Energy-nautics GmbH, Muhlstrabe 51, 63225 Langen, Germany.*

*Fax: +49-6103-982801*

*Email: info@energynautics.com*

*Web: www.windintegrationworkshop.org*

## **Climate & Water Balance Changes in the Caspian Region**

**Astrakhan, Russia**

**19-10-2010 to 21-10-2010**

Aims to have participants discuss and analyse research results and establish scientific cooperation in the field of climatology and hydrology in the Caspian region. Participants will also discuss the problems and potential solutions to changes in climate and the water balance for this region. Links between regional and global climate changes and long-term forecasting of the Caspian sea level are among other issues to be discussed and summarized.

*Details: Oxana Kholina, Caspian Marine Scientific Research Centre, 14 Shiryayeva Str. Astrakhan, Russia.*

*Fax: +7-8512-301163*

*Email: ccw2010@mail.ru*

*Web: www.ccw2010.org*

## **4th International Conference - Transitions to Sustainability**

**Auckland, New Zealand**

**30-11-2010 to 03-12-2010**

Organized by the New Zealand Society for Sustainability Engineering and Science, the conference is to be held

at Auckland University. Main themes include: evolutions in technology; limits to growth; new economics of sustainability; resilient societies; beyond today's infrastructure; and embedding sustainability. Discussions will centre around potential transition pathways to a more sustainable future and what engineers and scientists can do.

*Details: Vicky Adin, NZSSES, PO Box 305270, Triton Plaza, North Shore, Auckland 0757, New Zealand.*

*Email: vicky@nzsses.org.nz*

*Web: www.nzsses.auckland.ac.nz*

## **Sustaining Commons: Sustaining our Future**

**Hyderabad, India**

**10-01-2011 to 14-01-2011**

13th Biennial conference of the International Association for Study on Commons which is hosted by the Foundation for Ecological Recovery. Working themes for discussion and debate include: the commons, poverty and social exclusion; globalization, commercialisation and the commons; climate change and other challenges; managing complex commons such as protected areas, lagoons and wetlands and theory, analytics and data.

*Details: Subrata Singh, Foundation for Ecological Security, PO Box 29, Anand 388001, Gujarat, India.*

*Fax: +91-2692-262087*

*Email: subrat@fes.org.in*

*Web: www.fes.org.in*

# Local adaptation plans in Nepal

**Bimal Raj Regmi** and **Gyanendra Karki** describe how climate change and development planning is being integrated into Local Adaptation Plans of Action in Nepal

**A**dapting to climate change will entail adjustments and changes at community, regional and national levels. To enable workable and effective adaptation measures, local and national government planners and policy makers, as well as stakeholders including non-government organizations, must consider integrating climate change into their planning, budgeting and decision making.

Integrating climate change into planning requires two types of information. First, information relating to climate change vulnerability is needed. This means knowledge relating to the factors that make people vulnerable to existing and potential climatic stresses, such as access to resources and services, political access and secure livelihoods. Such information is likely to be gleaned from vulnerable communities themselves. The second type of information required relates to

existing and potential climatic stresses. This includes predicted climatic trends, existing climatic hazards that are likely to be exacerbated, and which regions and sectors will suffer the impacts first and worst. Such information is available from experts and national level studies.

## MAIN POINTS

- **The authors explain** how Local Adaptation Plans of Action in Nepal integrate top-down climate risk assessments with bottom-up community-led vulnerability assessments.
- **They describe** how adaptation planning in vulnerable

communities is supported through existing mechanisms such as Community Forestry User Groups.

- **It is concluded** that pilot activities have so far proved effective at mainstreaming climate change adaptation at the local level.

Both bottom-up information on vulnerability and top-down information on impacts is important for integrating climate change into planning at all levels. Much of the international discussion and debate to date, however, is based on an impacts-based approach to adaptation planning at the national level, through National Adaptation Programmes of Action (NAPAs). At the other end of the scale, some attention has been paid to community-based strategies that take a ‘vulnerability first’ approach to adaptation. These, however, have not been successfully scaled up to inform planning and policy-making across scales. This article proposes a way to integrate top-down and bottom-up approaches when mainstreaming adaptation into planning (from the local through to the national level) currently being piloted in Nepal: Local Adaptation Plans of Action (LAPAs).



**Nepal, Barun Valley**

Photo: © Dhillung Kirat

### **Adaptation planning in Nepal**

Nepal is one of the last countries to develop its NAPA and as such has been able to learn lessons from NAPA processes in other countries. Recent evaluations of other NAPAs have shown that there is a need to take a more strategic approach to national adaptation planning with better links to both other climate change planning processes at the national level and also to mainstreaming adaptation across scales right down to the local level.

The NAPA in Nepal also follows a growing realization among academics, government and civil society that in order to achieve

mainstreaming, institutional mechanisms need to be developed to forge links between climate change activities initiated under the NAPA process and the risk management and development activities of national, sectoral and local planners.

Integrating climate change into development policy and planning whilst maintaining a participatory approach to understanding what vulnerability means in a development context requires inputs from a wide range of stakeholders. Lessons on mainstreaming adaptation into development from elsewhere have shown that it is important not to lose

sight of the contextual nature of vulnerability to climate change. This necessitates a range of inputs and approaches, from the knowledge of vulnerable local communities and non-government organizations regarding traditional and appropriate systems of adaptation in environmentally sensitive environments, through to the technical expertise of scientists and engineers.

In response to these lessons, the Government of Nepal has mobilized significant co-financing to undertake an 'expanded NAPA' process. This uses the NAPA as the basis for a sustainable framework on national climate change action, which can result in swift and well-coordinated follow-up to the NAPA priorities identified. The overall structure of the NAPA has three components: (1) preparation and dissemination of a NAPA document, (2) development and maintenance of a Climate Change Knowledge Management and Learning Platform for Nepal, and (3) development of a multi-stakeholder Framework of Action for Climate Change in Nepal.

Furthermore, the NAPA in Nepal has adopted an innovative approach to multi-stakeholder engagement and vulnerability analysis. This moves beyond the regional and national consultation meetings used by other NAPAs towards a framework that generates and incorporates meaningful inputs from a wide range of stakeholders including vulnerable communities themselves. Part of this approach involves the generation of LAPAs. These are being used to inform the

development of component (1) explained above - the NAPA document - and will be facilitated, taken forward and institutionalized under components (2) and (3).

### What are LAPAs?

The vision for LAPAs is to develop a system of adaptation planning that does three things:

- enables communities to understand changing and uncertain future climatic conditions and engage effectively in the process of developing adaptation priorities;
- implements climate resilient plans that are flexible enough to respond to changing climatic and vulnerability conditions; and,

- informs sectoral programmes and catalyses integrated approaches between sectors.

Bottom-up processes are important in order to come to a common understanding with the community on what the most significant climate risks and hazards are, which among these are most urgent, and what could be done at the local level to respond to them based on local knowledge and perceptions. The LAPA planning process seeks to establish a vertical link between the national-scale, top-down assessments of current climate risks and future climate risks, with bottom-up assessments from community members themselves, informed by local knowledge and geographical specificity. This

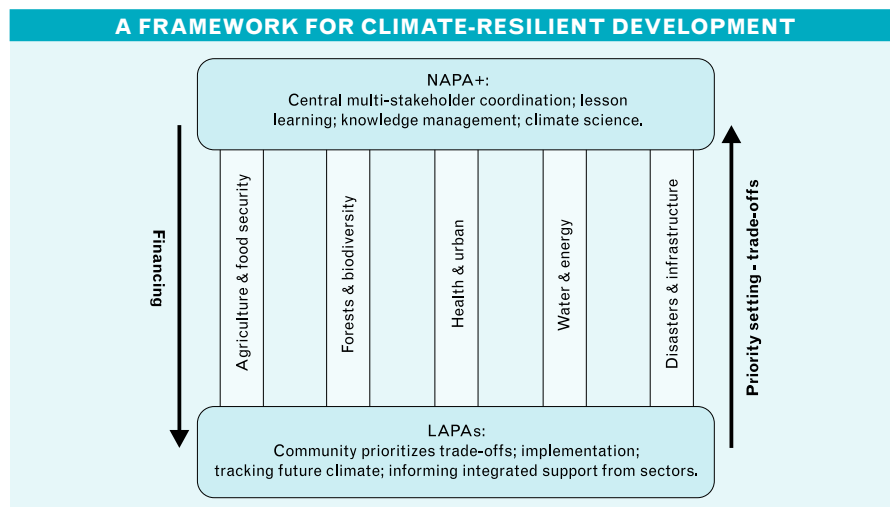
is particularly critical because if communities are unable to distinguish climate change risks from the other risks that they face, then efforts to develop adaptive capacity might become unfocused or ineffective. As other research has noted, involving communities in identifying adaptation priorities and options is more likely to lead to a successful adaptation intervention.

The LAPA is a plan prepared at the local level by a multi-stakeholder team including the vulnerable communities. It involves decentralized and bottom-up planning processes. It aims to identify local adaptation needs that focus on reducing local climate risks and vulnerabilities and increasing resilience. It should also strengthen local and mid-level institutional mechanisms for ensuring consolidated and coordinated adaptation responses at local levels through existing planning process.

In turn, LAPAs could be used as a vehicle to inform sectoral programmes and catalyse cross-sectoral coordination to build climate resilience. Mainstreaming climate change adaptation into existing local development planning in this way - particularly at district and village levels - is important to ensure bottom-up perspectives are integrated into climate resilient development planning.

### Case study: piloting LAPAs in Nepal

The Ministry of Environment in Nepal has taken up the concept of LAPAs and is currently designing plans for a pilot programme







**Farming in Nepal**

Photo: © Kelly Caylor

under the NAPA. This pilot programme will design and implement LAPAs in ten districts across the country. The aim of the LAPAs is to showcase how to enable adaptation planning and delivery at a local scale, and how to identify appropriate multi-scale institutional linkages for mainstreaming adaptation throughout Nepal.

One of the existing models that LAPA design in Nepal will draw on is that of the Livelihoods and Forestry Programme (LFP). This

has been piloting a LAPA-type approach to forest management in over 300 districts since 2009. The community forestry programme is one of the most successful community-based natural resource management programmes in Nepal. It has helped enhance rural livelihoods - hence providing climate change adaptation benefits - by conducting wider livelihoods-based and community development activities at the community level. Community forestry has provided livelihood

opportunities for the poor by using pro-poor inclusive approaches that target poor and disadvantaged people using wealth ranking. Key to the success of the LFP programme are effective formalized local institutions known as Community Forestry User Groups. The LFP supports the Community Forestry User Groups by providing technical and financial backstopping to help them understand, plan and implement forestry and climate change related activities. Community Forestry User Groups spend more than 70 per cent of their income on wider community development or livelihood activities.

Supported by the United Kingdom government Department for International Development, the LFP has recently started developing the adaptive capacity of local communities by systematically developing Community Adaptation Planning through community forestry. This is done using existing mechanisms such as Community Forestry User Groups and Public and Institutional Land Management groups. The Community Adaptation Planning programme covers 512 village development committees and 2292 community groups (about 50 per cent of the total number of LFP Community Forestry User Groups) in 15 districts.

Rather than creating new mechanisms, the LFP has used existing mechanisms to develop community adaptation planning in support of the most vulnerable communities and people. The process started with sensitization of local communities on climate change

issues, developing guidelines for field facilitators/practitioners, enhancing the capacity of more than 500 local facilitators/community practitioners on vulnerability assessment and adaptation planning, and supporting the preparation of adaptation plans at grass-root levels targeting poor and vulnerable households.

The Community Forestry User Groups and their network provide very strong sustainable grassroot-level institutions that can take the lead on natural resources conservation and management. The piloting of local-level adaptation planning and community-based adaptation is done by mobilizing these 300 User Groups and the Village Development Committee-level forestry coordination committees. The programme has also established grassroot-level community-based adaptation funding to help innovative users and vulnerable households access resources and obtain support for their adaptation plans.

The LFP initiatives piloting community-based adaptation planning will provide good lessons for LAPAs. The NAPA will build on learning from the LFP, particularly from the pilot projects, on institutional design, institutional linkages and natural resource management interventions.

### Key learning for LAPAs

It is too early to assess key learning for LAPAs, but this innovative adaptation mechanism is already helping test whether mitigation and adaptation options in particularly vul-

nerable districts of Nepal can converge. The process has identified social transfer and financial support programmes that are well-targeted, well-timed and can help enable adaptation in the forestry sector by encouraging people to become less risk averse and try out different adaptive options. High levels of awareness and sensitization have encouraged users to pilot and scale up mechanisms for mainstreaming climate change into their development activities.

### The way forward

The LAPA concept is being debated and incorporated into development thinking in Nepal. The Ministry of Environment, which is the lead ministry on climate change and the focal ministry for the United Nations Framework Convention on Climate Change, is very keen to pilot and draw lessons from LAPAs and is looking for opportunities to mainstream climate change into development planning processes. Preparation of the NAPA document is a live process, which plans to link to local-level community-based adaptation planning and initiatives. Although the pilot activities are in an early phase, there are already encouraging results: existing mechanisms are so far proving effective at mainstreaming climate change adaptation at the local level. ■

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## ABOUT THE AUTHORS



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## DISCLAIMER

● Bimal Raj Regmi is currently Climate Change and Natural Resources Adviser at the United Kingdom Department for International Development (DFID) in Nepal. The views presented in this paper do not, however, represent DFID's views or position.

# On the road to Cancún

NEWS

## CLIMATE CHANGE TALKS

**The second round of this year's Bonn United Nations climate change talks took place in early June. Tiempo editors Mick Kelly and Sarah Granich report.**

The aim of the latest round of the Bonn negotiations was to pick up on issues that were not resolved at the Copenhagen Climate Summit and pave the way for full implementation of climate change action across the globe. "The Copenhagen meeting may have postponed an outcome for at least a year, but it did not postpone the impacts of climate change, said Yvo de Boer, outgoing executive secretary of the United Nations Framework Convention on Climate Change (UNFCCC) secretariat.

The latest draft negotiating text on long-term cooperative action under the UNFCCC was reviewed by a contact group at the meeting and then circulated to delegates to facilitate discussion before the text is considered formally at the next negotiating session in August. While environmental groups welcomed the manner in which the negotiat-

ing text was developing, it was clear that a number of issues remained to be resolved.

During the final plenary session of the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA), the United States noted "unacceptable" elements in the draft text, saying that it moved away from the agreement in Copenhagen, and observed that there is no presumption that the text can be used as a draft going forward. Yemen, for the G-77/China grouping, described the draft text as "unbalanced" due to the removal of the G-77/China's proposals and insisted that it be revised to better reflect developing country concerns before it is discussed formally. Grenada, speaking for the Alliance of Small Island States, lamented deletion of references to Least Developed Countries, Small Island Developing States and Africa. Despite this criticism, many developing countries stressed their support for the AWG-LCA Chair, Margaret Mukahanana-Sangarwe, acknowledging that she had prepared the advance draft in good faith.

As the talks ended, de Boer noted that there has been a "positive spirit" during the discussions, with "good progress" over technical is-

sues. Nevertheless, "a number of hot political issues are very much stuck and need to be addressed," he added. In his farewell statement, he accused governments of doing too little on climate change. "To move towards World Cup imagery: we got a yellow card in Copenhagen and the referee's hand will edge towards the red one if we fail to deliver in Cancún and beyond," he said. His expectation of the Cancún summit later this year is that it can provide an agreed architecture to deliver on adaptation, mitigation, technology, finance, capacity building and reducing deforestation in developing countries. de Boer was given a standing ovation by the delegates following his address. Christiana Figueres takes over as executive secretary of the UNFCCC Secretariat. The next negotiating session will take place in August, again in Bonn.

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● **Further information:** The Tiempo Climate Cyberlibrary provides weekly coverage of news at [www.tiempocyberclimate.org/newswatch/](http://www.tiempocyberclimate.org/newswatch/). For detailed discussion of all climate negotiating meetings, visit Earth Negotiations Bulletin at [www.iisd.ca/process/climate\\_atm.htm](http://www.iisd.ca/process/climate_atm.htm).

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# Real action on adaptation

To implement adaptation in developing countries beyond just a short-term perspective, given that further future climate impacts can no longer be avoided, international policies need to provide a functioning, action-oriented framework to ensure further scaling-up, predictability and continuity. This requires a paradigm shift from how adaptation has been dealt with so far.

One important task that such an adaptation action framework needs to fulfil is to strengthen international activities to facilitate adaptation planning and implementation at national levels and promote the exchange of knowledge and experience gained. Moreover, the framework should ensure that easy, predictable and direct support (finance, technical expertise, capacity building) can be delivered, prioritizing those who are most vulnerable - communities, people and countries - and that measures to ensure ecosystem functions are maintained.

Furthermore, in order to be successful, the framework needs to build on key principles.

First, it must ensure maximum national, local and community level involvement and ownership over all aspects of adaptation planning and implementation and protection of the rights of indigenous people. Second, it should promote an integrated approach that enhances the climate resilience especially of the poor, in particular women, children, indigenous people and the disproportionately

affected. Finally, it must include proper monitoring and evaluation of support and actions, building on in-country experience, to ensure effective adaptation planning and implementation.

The current approach to an international adaptation response is far away from what is required. Resources provided by developed countries are not even sufficient to cover the most urgent adaptation needs, lack the required predictability and are channelled through a very fragmented funding structure. Developing countries are supported (and asked) to prepare plans and strategies, such as the National Adaptation Programmes

of Action, but can never be sure whether their implementation will receive sufficient and predictable support.

Any agreement on adaptation under the climate treaty should be measured against these key deliverables, how far it contributes to achieving an appropriate international response, or, in a negative case, how far it locks into a state of low ambition on adaptation for the coming decades. Of course, any such response will not be effective without the required development paradigm shift in developed as well as developing countries, namely to pursue a low carbon development pathway in order to deliver the necessary emission cuts.

## THE FINAL WORD

**Sven Harmeling** argues that a paradigm shift on adaptation is essential



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