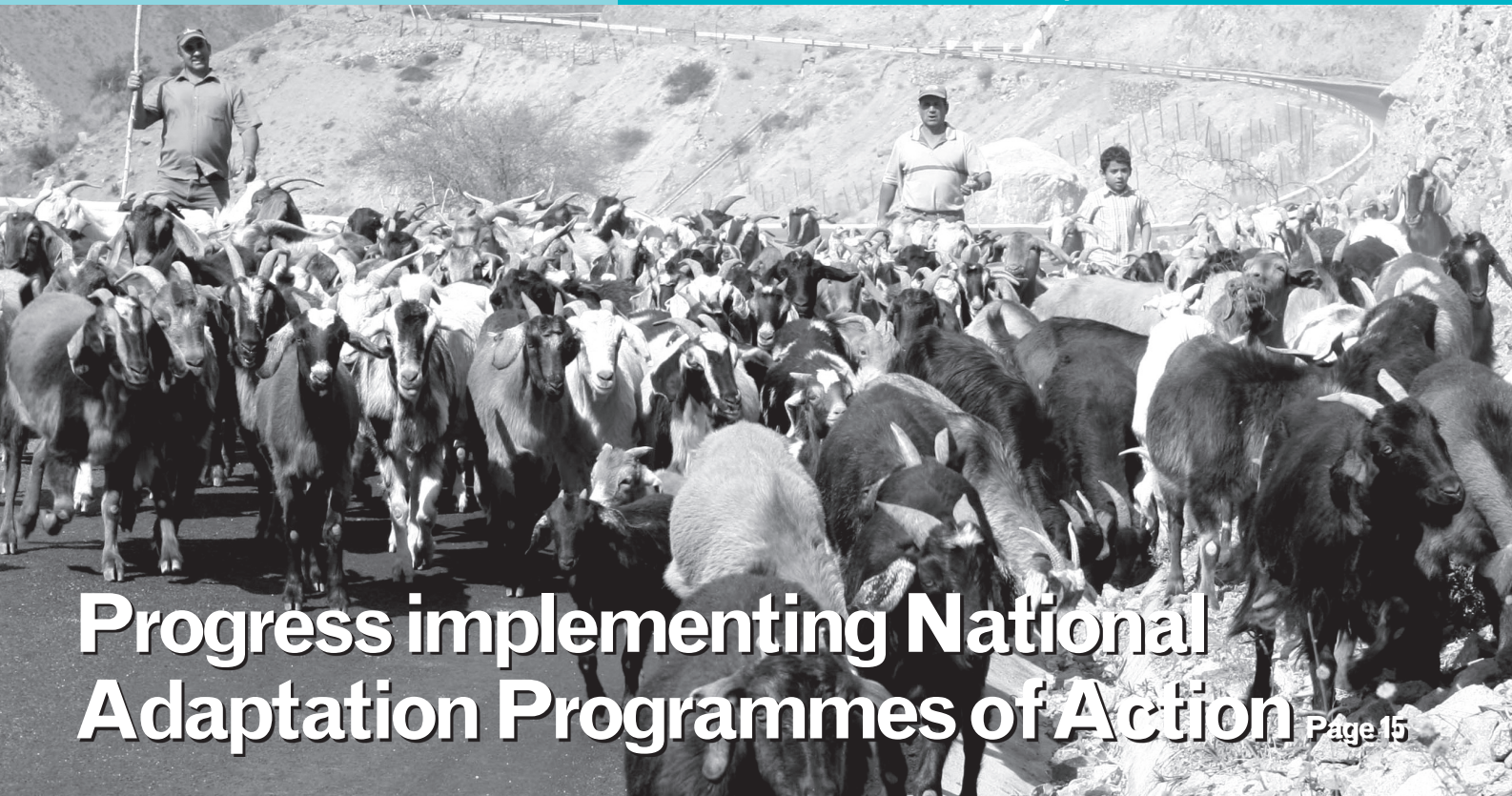
Tiempo

#69

A bulletin on climate and development Issue 69 October 2008



Progress implementing National Adaptation Programmes of Action

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Issue 69 October 2008
www.tiempocyberclimate.org

Cover photo: Semi-nomadic goat herders in the Elqui Valley, Chile Photo: © Barry Smit

Children on Gorée Island, Senegal Photo: © Richard Clay

Too much of a good thing

Gwen Young, Barry Smit, Johanna Wandel and Humberto Zavala describe vulnerability to water resources under climate change in the semi-arid Elqui Valley, Chile

Livelihoods in dryland areas are inherently challenged by the demands of climate variability. Climate change is expected to have further implications for water resources in these areas. The Elqui River Basin, which stretches for approximately 130 kilometres from the Pacific Ocean to the High Andes in north-central Chile, is no exception. The basin is particularly sensitive as rainfall is very low, river discharge is highly variable and prolonged dry periods are common. Precipitation averages around 100 millimetres per year and the valley is greatly affected by intense precipitation events initiated by the El Niño-Southern Oscillation (ENSO) phenomenon.

The vulnerability of the Elqui community of Diaguitas to water and climate-related stresses was analysed by a multi-disciplinary team between 2006 and 2008. Data inputs for the study included participant observation, interviews, focus groups, climate and hydrological records and projections and administrative and historical documents. The conditions that affect livelihoods and contribute to vulnerabilities were documented. These included inter-related factors such as global climatic phenomena (especially ENSO), topography and landscape modification due to increased acreages of fruit crops related to international demand and national economic strategies. This study demonstrates that, while moisture is desperately needed in an agriculturally productive dryland area, excessive moisture can sometimes be 'too much of a good thing'.

MAIN POINTS

- **The authors describe how** the Elqui River Basin community of Diaguitas in Chile suffers from debris flows due to increasingly frequent intense precipitation events exacerbated by intensive grazing and landscape modification from commercial agriculture.
- **Agricultural companies** could suffer from future river water reductions due to snow and ice depletion.
- **Existing community** and commercial adaptive strategies may not be able to cope with future climate change.

The study area

Diaguitas is a small rural community of 700 people, located 80 kilometres from La Serena, at an elevation of 687 metres above sea level. Diaguitas is adjacent to the Elqui River at the base of the precipitously steep hill, Cerro Mamalluca, which rises to 2219 metres. The valley has a thriving commercial agricultural industry, based on irrigation water drawn from the snow and glacier-fed Elqui River. Major crops include table grapes, citrus and avocado for export. Intensive vineyards and plantations blanket the valley and hillsides surrounding the community. Large agricultural companies provide the main source of

Cerro Mamalluca Photo: © Gwen Young

wage employment for the region. Prior to the arrival of these companies residents relied on the productivity of their 'huertos' (gardens or small farms). However, small farmers have difficulty generating income from small-scale crop production and often cannot refuse the salaries and high prices offered for their land or water rights. As a result, many residents have sold their land and water rights and taken up employment for wage labour. The community also includes a group of semi-nomadic goat herders who rely on rain-fed vegetation in the valley.

Most residents and businesses are either directly or indirectly dependent on water resources to sustain their livelihoods, through employment from agricultural companies, small-scale agricultural and livestock production and for potable water. Due to this dependency, the community is sensitive to variations in climate and water regimes. Any extreme change in the nature of water resources or in the availability or use of water will have a corresponding effect on the community.

Coping with water variability

Members of the community experience the effects of water variability in different ways. For example, prolonged dry periods, typically coinciding with La Niña episodes, reduce natural vegetation growth leaving goats with insufficient food from their usual grazing areas. In the past, goat herders adapted to this by moving herds to other parts of the river valley and coastal areas, but this is becoming increasingly difficult because commercial agriculture is preventing access.

Abundant precipitation may also be 'too much of a good thing' in Diaguitas. Intense and abundant rainfall events can trigger debris flows that cause significant damage to the community. Episodes of heavy rain ('lluvias locas' or 'crazy rains') tend to occur every few years, coinciding with El Niño conditions and following La Niña's prolonged dry periods. During an El Niño year, annual rainfall can be two to three times higher than the annual mean. Community observations and instrumental records indicate an increase in extreme precipitation events. Community members feel that the rains have become much more intense in recent decades.

In addition to precipitation events, topography and land use play a role in the debris flows affecting Diaguitas. Diaguitas' location at the base of Cerro Mamalluca's sparsely vegetated, dry, sandy slopes means that the community is in the direct path of the debris flows that occur when sediments are saturated. Although there are currently fewer goat herders than in the past, reduced access to the valley floor has contributed to more intensive grazing of the upper slopes. This has depleted the natural vegetation and reduced slope stability. Two major debris flows in 1997 and 2004 inundated the community when 'lluvias locas' occurred after prolonged dry periods. In 2004, more than 100 millimetres of

rain fell in six hours triggering movement on the unstable slopes. The resulting debris flows destroyed homes, irrigation canals and crops. The flow caused the stream to swell, blocked roads and made parts of the community inaccessible. Residents were hospitalized with injuries and hypothermia and some were left homeless and were forced to relocate or replace their homes.

The risk of damaging debris flows is further exacerbated by landscape modification related to industrial agricultural development. The rapid boom in commercial agriculture, reflecting export-oriented national economic policies, influences slope instability by increasing planted areas. This removes natural vegetation and physically modifies the hillsides. Changes in land cover and land uses have also modified drainage patterns. Residents note that previously there were multiple 'quebradas' (ephemeral creeks) which drained the slopes during periods of intense rainfall. With the modified landscape there are fewer 'quebradas', increasing the force of the flow in those remaining and moving more debris. Residents indicated that when the land was covered by natural vegetation and the surface was unmodified by humans, the energy of the debris flows was dissipated and the damage was less.

Agricultural companies themselves are sensitive to water availability. The companies primarily rely on surface water from the Elqui River for irrigation. Surface water variations are managed through the adoption of technologies such as high efficiency drip irrigation systems and water storage systems as well as the purchase of additional water rights. The continuing expansion of irrigated commercial agriculture in the valley has been facilitated by sustained river discharges, with some evidence of increases in supply since the 1970s. Ironically, this abundance may also be 'too much of a good thing' as it could well indicate deficits to come. Climate change has already resulted in the depletion of glaciers throughout the Andes and many river systems experience increased flows as snowlines become elevated and glaciers retreat, followed by depleted flows once the snow and ice sources are exhausted.

Vineyards and avocado plantations in Elqui Valley Photo: © Gwen Young

Conclusions

Diaguitas is already vulnerable to variations in the hydrological regime. Climate change, together with other forces, influences community exposure to potentially more frequent or intense storms and has implications for the long-term discharge of glacier-fed rivers such as the Elqui. The expanded agricultural industry and those employed in it are exposed to changes in the supply of irrigation water. As glaciers diminish with climate change and less runoff from snow is available in the summer months, seasonal competition for water in the agricultural sector will increase.

Adaptive strategies are already being employed to make the most efficient use of avail-

able water, maintain contingency reserves through additional water rights and store water. It is not clear whether these have the capacity to sustain the agricultural industry under future climate change and changes in river discharge. In addition, prolonged dry periods and an increase in the frequency and intensity of extreme rainfall events would likely trigger more debris flows, especially if land use changes continue to modify slope surfaces. Since the most recent episode of 'lluvias locas' in 2004, some adaptive measures have been attempted to reduce the damage associated with debris flows. The effectiveness of these adaptations, which include artificial channelling, barriers and emergency management, remains untested until the next period of slope instability.

Although Diaguitas is a dryland community, its residents and their livelihoods are generally well adapted to the historical moisture conditions. The climatic growing conditions and access to irrigation water through river discharge drew commercial agriculture to the Elqui Valley and provides the main employment for residents. However, significant reductions in the discharge of the Elqui River would likely exceed the adaptive capacity of commercial agricultural operations and residents. Similarly, increases in the frequency and intensity of extreme precipitation events, combined with land use changes, would likely increase the exposure to debris flows. ■

ABOUT THE AUTHORS

● **Gwen Young** is a research associate with the Global Environmental Change Group at the University of Guelph in Canada.

● **Barry Smit** is a geography professor and holder of the Canada research chair in global environmental change at the University of Guelph in Canada.

● **Johanna Wandel** is an assistant professor at the University of Waterloo in Canada where she specializes in the human dimensions of global change.

● **Humberto Zavala** is a civil engineer working in the private sector in Santiago, Chile, and a former faculty member at the Universidad de la Serena.

CONTACT

● The authors can be contacted through **Barry Smit**, University of Guelph, Guelph, ON, Canada, N1G2W1.
Email: bsmit@uoguelph.ca
Fax: 519-837-0811
Email: gwendolynneyoung@gmail.com
Email: jwandel@uwaterloo.ca
Email: humberto.zavala@poch.cl

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DISCLAIMER

● The views expressed in this article are the authors' personal views and do not represent those of their respective countries or the organizations supporting the research.

NGOs: running on empty?

Megan Rowling finds that confused definitions and capacity constraints are holding back aid agencies' responses to climate change adaptation

Two years ago at a conference about living with climate change, development economist Jeffrey Sachs castigated the world for its inadequate response to global warming. "So far efforts have focused on mitigation - and with major actors not part of international climate agreements, we haven't really got a great strategy there," he said. "But even less have we put together a strategy together for adaptation. There is no post box for countries such as Chad and others affected by climate change to write to for help."

Aid workers were noticeable by their absence at that meeting – but they have since come to recognize the risks for the vulnerable countries in which they work. At a recent workshop on communicating climate change, one aid agency colleague remarked that news editors no longer get excited about stories along the lines of "poor people to be worst hit by climate change." This is a good sign because it means the message has at least been delivered to the right address. What remains challenging is the response.

Most relief and development groups have now accepted the need to integrate climate change into their strategy and programming. They are working to boost people's resilience to cope with, and adapt to, the consequences of climate change. Some are advocating for a more just international policy framework for tackling climate change. Yet progress is uneven, and there is little critical evaluation of non-governmental (NGO) responses. A survey of international NGOs (INGOs) conducted earlier this year sheds some light on the knowledge gaps.

This article summarizes the findings and conclusions of the research, drawn from sixteen questionnaire responses and six interviews. Of the participating INGOs, ten are active in both relief and development - ActionAid, the Catholic Agency for Overseas Development, CARE, Christian Aid, Islamic Relief, Mercy Corps, Oxfam, Plan (United Kingdom), Save the Children and Tearfund; three are active mainly in development - International Alert (peace building), Practical Action and WaterAid; and, three in humanitarian work - Merlin, Médicins Sans Frontières and the British Red Cross. While the

MAIN POINTS

- **The author explains how** most relief and development groups accept the need to integrate climate change into their work, but progress with this is uneven.
- **Confusion exists** over what climate change adaptation means in practice and some agencies are held back by insufficient capacity.
- **Agencies can help** with action learning on community-based adaptation, linking communities and high-level policy processes and disseminating scientific knowledge.

data reflects their climate change responses in the first quarter of 2008, some organizations will have advanced since completing the survey.

Strategic responses to climate change

In the past two years, climate change has risen decisively up NGO agendas. Of the sixteen organizations researched, six rated climate change as a top priority and seven as an important issue. Three said it was a low priority: Islamic Relief because it had not been perceived as a key factor in poverty reduction; Médicins Sans Frontières because it responds to disasters irrespective of their causes; and, Plan because of too many competing priorities. None said it was of "no concern". Eleven did not start working formally on climate change until 2006, with Tearfund giving the earliest date of 2002. Fourteen respondents said climate change would become more important in the coming decade, with only Tearfund arguing it would become less so after completion of a programme to mainstream environmental sustainability.

Seven respondents identified poor understanding of, or doubts about, climate change as an obstacle to getting it onto the strategic agenda. The British Red Cross said some staff were concerned that climate change was the latest aid fad. CARE noted that its response had been significantly delayed by "misinformation" on climate change in the United States. Three factors were seen as key to winning organizational buy-in: climate change 'champions' who have been instrumental in raising awareness and enlisting top-level support; membership of climate change coalitions which has provided valuable impetus; and, framing climate change in a way that relates to organizational priorities.

A farmer checks his mangrove trees at Lamnga beach in Aceh Besar, Indonesia. Mangroves protect coastal areas from erosion caused by severe weather

Photo: © REUTERS/Tarmizy Harva. Courtesy www.alertnet.org

Respondents have used a variety of lenses, but nearly all made the link between climate change and their work on disaster preparedness and disaster risk reduction (DRR). For some, this angle has helped play down the 'newness' of climate change and its potential strain on capacity. Ten took the view that climate change threatens the effectiveness of their development and poverty reduction work. Seven – mainly campaigning groups – have presented climate change as a global justice issue for which rich polluting nations should compensate developing countries.

Christian Aid probably went furthest along this path, warning that the poor risk losing their "development rights in a climate-constrained world."

Climate change activities

Twelve respondents were doing external work on adaptation (advocacy and campaigns), and eleven were undertaking programme-based adaptation work. Eleven were taking internal action to audit and reduce their emissions, and ten were lobbying externally for cuts in greenhouse gas emissions. One (Médicins Sans Frontières) said it had no climate change-related activities, while Merlin listed only DRR work. NGOs engaged only in humanitarian work indicated a reluctance to engage in what they see as political campaigning on emissions. On adaptation, 11 out of thirteen eligible INGOs said they were integrating it into their disaster response/mitigation work, and ten out of thirteen eligible respondents into their development work. The main focus was projects and community-based measures to boost resilience to disasters and adapt to climate change, together with related research. This took precedence over systematic climate risk management activities, such as portfolio screening and climate-proofing.

The survey revealed considerable confusion over what climate change adaptation means in practice. Some NGOs presented it as interchangeable with their DRR work, while others argued the need to make a clear distinction. Christian Aid listed one goal of its adaptation work as "to develop a methodology for the additional nature of climate change adaptation programmes (not just rebadging livelihoods or DRR programmes)." Oxfam noted the difficulty of distinguishing between "existing, sometimes major, climate changes," such as drought in the Sahel, and new trends and events that can be attributed to climate change as "a human-made, accelerating threat." ActionAid cited a lack of clarity on what work qualifies as climate change adaptation within related areas such as food security and DRR.

Funding

Ten respondents said they had financed adaptation activities from existing programme budgets, and seven had accessed external grants. Seven said their adaptation work has been compromised by a lack of funds – including most respondents that are in a position to scale up their work. For the rest, financing has not been a problem, mainly because they are still planning or piloting activities. This finding suggests there may be less funding available for NGO adaptation work than widely perceived. CARE argued that some donors have earmarked significant amounts for adaptation but are still deciding how to allocate the money.

Mainstreaming

Only five organizations said they have a policy of mainstreaming climate change adaptation across their operations (CARE, Mercy Corps, Practical Action, Tearfund and WaterAid), and most are in the early stages of implementation. Activities include developing climate risk assessment tools and guidelines for integrating adaptation into programme planning and monitoring and evaluation methods; research on best practice; and, training staff and partners. While mainstreaming is widely regarded as the right approach, several respondents said they were still working out how to do it in practice. Only Christian Aid specified that it did not see adaptation as a mainstreaming agenda.

Capacity

Most NGOs are allocating an increasing amount of human and financial resources to climate change work. Among the respondents, thirteen had staff working on climate change, including policy coordinators (seven), analysts/researchers (six) and campaigners (four). Five had a climate

"the survey revealed considerable confusion over what climate change adaptation means in practice"

policy team and four a climate change committee. While a small team may be adequate to kick-start work at headquarters, the study found that insufficient capacity is holding back some agencies' efforts to scale up adaptation and integrate it into country programmes.

Practical Action cited a lack of resources in three areas: expanding programmes beyond two or three country offices; policy work; and, staff capacity building. The Red Cross/Red Crescent Climate Centre also identified its biggest challenge as "massive capacity building on the widest possible scale." According to Maarten van Aalst, the Centre's climate specialist, the main need is to train staff across disciplines at national and local levels so they can start implementing adaptation in the field. He argued that the aid sector has yet to grasp the size and urgency of this task, with much discussion on tools and methodologies but not enough practical implementation.

> **"insufficient capacity is holding back some agencies' efforts to scale up adaptation"**

Advocacy

Most survey participants aim to shape public policy on climate change. Of the eight with campaigns on the theme, six have campaigned on adaptation and six on mitigation. Five INGOs said they are working to raise the profile of adaptation in United Nations climate negotiations, and five are pushing for more international financing for adaptation. Funding is becoming an increasingly contested issue, as the amount in the pipeline falls far short of what is needed. Oxfam said it was also advocating for just and equitable adaptation, and International Alert aims to persuade policy makers that adaptation should be based on ownership by local communities. A small number (including Oxfam, Practical Action and ActionAid) are also seeking to influence governments in developing countries via national branches and partner organizations, or by strengthening local civil society.

Where next?

The survey also questioned NGOs about the focus of their climate change work going forward. Analysis of open responses suggested adaptation is more strategically important than mitigation for both programme and policy work. DRR is favoured as a way of boosting resilience to weather hazards and climate variability. Reducing vulnerability, both in general and to specific weather shocks, is widely perceived as a 'no regrets' option that will build capacity to cope with future climate change and improve lives, irrespective of which climate scenarios materialize. Fewer organizations indicated they are planning activities in the area of clean development. Only CARE, Mercy Corps and Practical Action highlighted projects to help poor communities gain access to cleaner energy sources and carbon markets. If sustainable development is to become a reality, however, this may be an area that merits greater attention.

How 'climate smart' are INGOs?

Participating INGOs were mapped against a three-phase 'climate smart' transition process drawn up by Thomas Tanner and Tom Mitchell at the Institute of Development Studies, with the aim of evaluating real-world progress across the aid sector. Being 'climate smart' is defined as "an organization's ability to manage existing and future climate risks while taking advantage of opportunities associated with climate change." The key features can be summarized as follows.

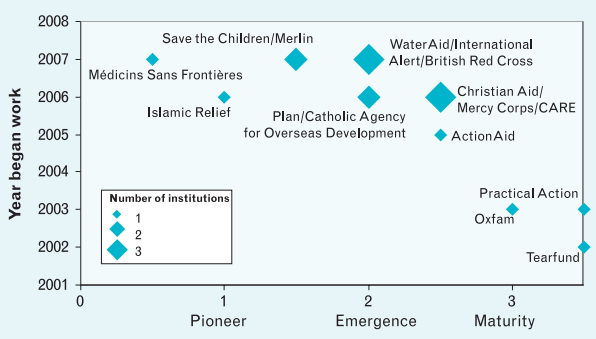
- Phase one (pioneer): Pioneers build the case for organizational response, drawing on external knowledge. Internal awareness-raising and external networking are key.
- Phase two (emergence): Champions draw in human resources and establish a vision and strategy for mainstreaming. Focus is on knowledge management and messaging. Internal green credentials are assessed.

- Phase three (maturity): Climate change is internalized and mainstreamed throughout the organization's mandate, strategy and operational plans. Top-level political will drives funding and activities, including risk-screening. Knowledge is communicated to empower supporters, enable adaptation and make the case for political action.

The findings of this research support Tanner and Mitchell's conclusion that NGOs are at different stages in the transition to becoming 'climate smart' and face unique challenges. The diagram below plots the year survey participants began working on climate change against the point they were judged to have reached in the transition process, as of the first quarter of 2008. Seven of the sixteen respondents had entered the third 'maturity' phase or were moving into it, with the rest spread across phases one and two.

Large campaigning NGOs with a broad relief and development mandate appear to be leading the pack, with humanitarian organizations – especially medical aid agencies – lagging behind. There is a correlation between the length of time an organization has been working on climate change and the extent of its transformation. Nearly all INGOs surveyed have set themselves on the path to becoming 'climate smart', and some late starters have made quite rapid progress. However, none have completed the process of mainstreaming climate change. While a few organizations are getting close to earning the 'climate smart' label, there is some way to go before it becomes applicable across the whole aid sector.

HOW 'CLIMATE SMART' ARE INGOS?



Conclusion

Confusion over which aid activities qualify as climate change adaptation has hampered implementation. This highlights a need for clearer definitions and processes to support decision making and learning. Re-labelling existing projects as 'adaptation' to obtain funding in the short-term could prove counter-productive once the effects of climate change become more evident and demand a bigger response. INGOs and donors could help reduce this risk by working out how to finance activities that build resilience to climate change but might go unfunded unless they can be classified as pure adaptation.

There is an urgent need for action learning on community-based adaptation, and INGOs will be instrumental in determining whether adaptation follows a grassroots or top-down model. They should act as innovators for community-based adaptation - developing and testing tools and methodologies in the field and sharing their results with the wider aid community. Progress could be thwarted, however, by a poor grasp of how much capacity building this requires. Limiting adaptation work to DRR or failing to manage longer-term climate risk because of insufficient capacity and/or knowledge could result in decisions that actually increase vulnerability to longer-term climate stresses.

Climate change appears to offer INGOs a fresh opportunity to forge an alternative development vision rooted in environmen-

tal sustainability. Justice-based advocacy on climate change clearly reflects an ambition to go beyond the technicalities of adaptation and to rethink orthodox notions of development. Yet the transformation to more sustainable development practices will be contested and complex. In the meantime, INGOs should aim for more equitable adaptation outcomes while continuing to address the underlying causes of climate change.

Aid agencies can help build the evidence base on climate change by documenting and communicating the experiences of their staff, partners and beneficiaries. In this way they can give climate change a 'human face' and make connections between people's lives, inspiring political action. INGOs are developing a more nuanced understanding of poverty and climate impacts and should use this to prevent the 'adaptation apartheid' scenario warned of by Archbishop Desmond Tutu in the 2007/8 Human Development Report. Some aid agencies have begun investigating the adaptation needs of vulnerable groups such as children and women, and this research should be fed into policy processes. INGOs and their partners could also promote greater involvement of local communities in planning and implementing adaptation measures.

INGOs are well placed to bridge the gap between high-level policy processes and communities at the sharp end of climate change, and should aim to facilitate the inclusion of marginalized groups in international negotiations. Besides calling for increased adaptation financing, they should also push for distribution mechanisms that ensure funding reaches the most vulnerable. At a national level – where developing country governments often lack capacity to respond to climate change – INGOs could support country offices, partner organizations and civil society in identifying local adaptation needs and getting them onto the policy agenda. Conversely, they have a key role to play in disseminating scientific and technical knowledge in accessible ways. This will require stronger relationships with climate scientists and researchers. As Saleemul Huq of the International Institute for Environment and Development argues, "We need a system that learns and does at the same time; and shares learning effectively in real time." ■

"confusion over which aid activities qualify as climate change adaptation has hampered implementation"

ABOUT THE AUTHOR

● **Megan Rowling** is a journalist for the humanitarian news website Reuters AlertNet, where she coordinates a project to strengthen media coverage of the humanitarian impacts of climate change.

CONTACT

● **Megan Rowling,** Thomson Reuters Foundation, The Reuters Building, 30 South Colonnade, Canary Wharf, London, E14 5EP, United Kingdom.
Fax: +44 207 542 8599
Web: www.alertnet.org
Email: megan.rowling@thomsonreuters.com

FURTHER INFORMATION

● **On the Web:** For information on activities in the area of climate change by the organizations that have reached 'maturity', Oxfam, Practical Action and Tearfund, visit www.oxfam.org.uk/oxfam_in_action/issues/climate.html, www.tearfund.org/Campaigning/Climate+change+and+disasters/ and www.practicalaction.org/?id=climatechange.

CONFERENCES

Voluntary Carbon Markets
London, UK:
14-10-2008 to 15-10-2008
Sponsored by EcoSecurities and First Climate. The third forum in a global series, this event will emphasize integrated solutions of brand positioning, business development and opportunities for face-to-face networking with senior decision makers.
Details: Santosh Sarma, Greenpower Conferences, Shakespeare House, 168 Lavendar Hill, London SW11 5TF, UK.
Fax: +44-2079001853
Email: santosh.sarma@greenpower-conferences.com
Web: www.greenpowerconferences.com/carbonmarkets/vcm_2008.html

Carbon Market Expo Australasia 2008
Gold Coast, Australia:
30-10-2008 to 31-10-2008
Australasia's main industry-hosted cabon market trade fair and conference. Will include keynote speakers, plenary and panel sessions and workshops. The workshop sessions will be focused on specific topics and sectors so as to address, in depth, issues on trading, markets, technologies, infrastructure and policy drivers. The trade fair will act as the other main focus for events intended to highlight regional products and services.
Details: Liz Symmons, AST Management Pty Ltd, PO Box 10508 BC, Southport, Qld 4215, Australia.
Fax: +61-7-55285291
Email: secretariat@carbonexpo.com.au
Web: www.carbonexpo.com.au

Klima 2008/Climate 2008
Virtual, Internet:
03-11-2008 to 07-11-2008
The first global, virtual climate conference taking place exclusively on the Internet. Conference languages will be German and English. Organized by the Faculty of Life Sciences of the University of Applied Sciences in Germany. Objectives are to develop synergies, to share scientific knowledge and to promote cooperation among scientific institutions. Participation is free.
Details: See below.
Email: walter.leal@haw-hamburg.de
Web: www.klima2008.net

World Conference on Marine Biodiversity
Valencia, Spain:
11-11-2008 to 15-11-2008
Main aims of conference are: to review the current understanding of marine biodiversity, its role in marine ecosystem functioning and its socio-economic context; to assess current and future threats and potential mitigation strategies for conservation and regulation of marine resources; and, to identify future research priorities.
Details: Moira Llabres, IMEDEA (CSIC-UIB), Miquel Marques 21, 07190 Esporles, Mallorca, Spain.
Email: moira.llabres@uib.es
Web: www.marbef.org/worldconference

SIREME International Exhibition for Renewable Energy & Energy Management
Paris, France:
17-11-2008 to 19-11-2008
A major trade exhibition for renewable energy development, energy management and regional sustainable development. Intends to provide, through exhibits and presentations, a comprehensive overview of renewable energy technology for producing electricity, heat, cooling and biofuels.
Details: European Renewable Energy Council, Rue d'Arlon 63-67, B-1040 Brussels, Belgium.
Fax: +32-2-5461934
Email: erec@erec.org
Web: www.erec.org

14th Conference of the Parties to the UNFCCC & 4th Meeting of the Parties to the Kyoto Protocol
Poznan, Poland:
01-12-2008 to 12-12-2008
These two main meetings will coincide with the 29th meetings of the UNFCCC's subsidiary bodies. Alongside these meetings the Ad Hoc Working Group on Long-term Cooperative Action will convene for its fourth session as well as the sixth meeting of the Ad Hoc Working Group on Further Commitments for Annex 1 Parties under the Kyoto Protocol.
Details: UNFCCC Secretariat/COP14/COP4, PO Box 260124, D-53153 Bonn, Germany.
Fax: +49-228-8151999
Email: secretariat@unfccc.int
Web: www.unfccc.int/meetings/unfccc_calendar/items/2655.php?year=2008

Forest Day: Shaping the Global Agenda for Forests & Climate Change
Bali, Indonesia:
08-12-2008
Organized as a one day parallel event with COP13. Intended to generate debate and dialogue on all the social, science, technological, human and political issues associated with forests and climate change.
Details: Rachel Carmenta, Climate Change Research Officer, CIFOR, PO Box 6596 JKPWB, Jakarta 10065, Indonesia.
Fax: +62-251-622100
Email: r.carmenta@cgiar.org
Web: www.cifor.cgiar.org/Events/COP-ForestDay/Introducti

Offshore Arabia 2009
Dubai, United Arab Emirates:
11-01-2009 to 13-01-2009
Organizers aim to share knowledge and build a momentum forward towards a secured global energy supply whilst promoting environmental awareness and managing the challenges of climate change. Main topics include: energy challenges; climate change; managing resources and the environment; sustainability; global environment and the role of governments; and, offshore and onshore protections.
Details: INDEX Conferences and Exhi-

CONFERENCES

bitions, PO Box 13636, Dubai, United Arab Emirates.
Fax: +04-3624718
Email: index@emirates.net.ae
Web: www.offshorearabia.ae|con_top.php

World Sustainable Energy Days 2009

Wels, Austria:
25-02-2009 to 27-02-2009

One of the largest of European events focusing, each year, on energy-related issues. Will include the "European Pellet Conference" covering technology trends and innovations, markets in Europe and world-wide and promotion and marketing amongst other themes. All of the events will have simultaneous translation into English, Italian, Spanish and German.

Details: Christiane Egger, Conference Director, O.Oe. Energiesparverband, Landstrasse 45, A-4020 Linz, Austria.
Fax: +43-732-772014383
Email: office@esv.or.at
Web: www.esv.or.at

EcoProcura 2009: Climate Neutral through Procurement

Reykjavik, Iceland:
25-03-2009 to 27-03-2009

The 7th EcoProcura conference intends to discuss how sustainable procurement can support climate change mitigation and adaptation strategies without compromising on social and economic aspects. Aims to provide a forum for exchange of ideas, experiences, concepts and opinions on how sustainable procurement can contribute to reducing greenhouse gas emissions and adaptation to climate change.

Details: ICLEI International Training Center, Leopoldring 3, D-79098 Freiburg, Germany.
Fax: +49-761-3689229
Email: ecoprocura2009@iclei.org
Web: www.iclei.org|ecoprocura2009

2nd Climate Change Technology Conference 2009

Hamilton, Canada:
12-05-2009 to 15-05-2009

CCTC2009 is a Canadian/international forum for engineers, scientists, policy advisors, industry and other stakeholders to share and exchange new information and ideas for dealing with climate change and global warming.

Details: Eric Williams, c/o Canoe-About Inc., 16 Brookview Crescent, RR#2 Tiverton, Ontario N0G 2TO, Canada.
Fax: +1-519-3966926
Email: info@canoe-about.ca
Web: www.cctc2009.ca|en|index.html

ICLEI World Congress 2009

Edmonton, Canada:
14-06-2009 to 18-06-2009

Working theme for the congress is "Connecting Leaders - Advancing Local Action for Sustainability". Aims to facilitate exchange and promote capacity-building among local governments and other stakeholders who play leading roles in the path towards sustainability. Will include keynote presentations, reports, debates, workshops, networking events, site visits and an exhibition.

Details: Conference Organizer, ICLEI International Training Centre, Leopoldring 3, 79098 Freiburg, Germany.
Fax: +49-761-3689229
Email: world.congress@iclei.org
Web: www.iclei.org|worldcongress

World Climate Conference-3 2009

Geneva, Switzerland:
31-08-2009 to 04-09-2009

Working theme of the conference is "Climate prediction for decision-making: focusing on seasonal to interannual time-scales, taking into account multi-decadal prediction". Dates provisional.

Details: WMO, Conference Organizer, Case Postale 2300, CH-1211 Geneva, Switzerland.
Fax: +41-22-7308181
Email: info@wmo.ch
Web: www.wmo.ch|pages|world_climate_conference|index_en.html

Behaviour, Energy and Climate Change Conference

Sacramento, USA:
16-11-08 to 19-11-08

Second annual conference focused on understanding the nature of individual and organizational behaviour and decision making and using that knowledge to accelerate our transition to an energy-efficient and low carbon economy. Conference will review recent behavioural research, discuss current and emerging policy issues, share effective program/communication strategies and encourage collaboration across government, utility, business and research sectors.

Details: American Council for an Energy-Efficient Economy, 529 14th Street N.W., Suite 600 Washington, D.C. 20045-1000, USA.
Fax: +1-202-4292248
Email: info@aceee.org
Web: piee.stanford.edu|cgi-bin|htm|Behavior|becc_conference.php

15th Conference of the Parties to the UNFCCC & the 5th Meeting of the Parties to the Kyoto Protocol

Copenhagen, Denmark:
30-11-2009 to 11-12-2009

Overarching goal is for Parties to agree post-Kyoto climate treaty framework. Meetings will coincide with the 31st meetings of the climate treaty subsidiary bodies - the Subsidiary Body for Implementation and the Subsidiary Body for Scientific and Technological Advice.

Details: UNFCCC Secretariat COP15|MOP5, PO Box 260124, D-53153 Bonn, Germany.
Fax: +49-228-8151999
Email: secretariat@unfccc.int
Web: www.unfccc.int|meetings|unfccc_calendar|items|2655.php?year=2009

Progress implementing NAPAs

Jessica Ayers describes progress towards the implementation of National Adaptation Programmes of Action (NAPAs) in the Least Developed Countries

National Adaptation Programmes of Action (NAPAs) were established as 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. As of June 2008, 38 LDCs had submitted NAPAs to the United Nations Framework Convention on Climate Change (see table on page 16). NAPA projects that have been submitted for funding from the Global Environment Facility (GEF) and other donors are being developed.

Despite progress on the development of NAPAs, the NAPA process has come under fire recently, not least because of the slow implementation of projects identified in the NAPA documents. This problem, however, is largely a functional one between countries and implementing agencies, rather than a reflection on the projects themselves. On the contrary, a closer look at NAPA projects submitted to the GEF reveals a portfolio of well-designed adaptation initiatives that are consistent with the principles of the NAPA, including: a country-driven, bottom-up participatory approach; actions that are consistent with national and sectoral development plans; and, activities that reduce current climate change vulnerability whilst addressing poverty, environmental management and sustainable development.

MAIN POINTS

- **The author describes** four NAPA projects in Bangladesh, Bhutan, Malawi and Sudan, all of which have been submitted for funding.
- **Implementing NAPA projects** can build LDC resilience, through direct project outcomes and through improving wider understanding, uptake and action on adaptation elsewhere.
- **NAPA project implementation** must, therefore, be given greater financial and institutional support, and implementation must be evaluated and learnt from.

This article explores the potential that NAPA projects submitted for implementation have to reduce vulnerability to climate change. Focusing on case studies of pilot projects in four countries, Bangladesh, Bhutan, Malawi and Sudan, this article calls for greater support for the final implementation stage of NAPAs. While the direct benefits of NAPA projects are limited in scale and scope, much can be drawn from them. Full implementation of NAPAs must be encouraged, evaluated and learnt from.

NAPA projects

The range of projects presented in the NAPAs is varied, both in terms of project type and the scale of interventions. In their report, *Les-*

sons Learned in Preparing National Adaptation Programmes of Action in Eastern and Southern Africa, Balgis Osman-Elasha and Thomas Downing review the database of submitted NAPA projects. They categorize the projects in terms of project type and project scale.

Project types include:

- awareness raising activities;
- information and research;
- capacity building and early warning systems;
- mainstreaming and incorporation into development plans;
- investment in changing resource management (in specific households or regions);
- institutional reform and regulation; and,
- financial approaches and insurance.

Project scales include:

- targeting specific vulnerable groups;
- community-based adaptation, with groups identified by their livelihood or region;
- sector-wide development, often housed in a relevant ministry;
- regional projects that cover more than one sector; and,
- national-level projects orientated towards policy and planning across a number of sectors

Osman-Elasha and Downing show that most of these NAPA projects involve direct investment in adaptation actions and also capacity building and mainstreaming. Relatively fewer are concerned primarily with awareness raising, information and research. In terms of scale, most projects were at the sectoral scale, although many were at the community scale. This perhaps reflects the development agenda of line ministries leading each in-country NAPA process.

COMPLETED COUNTRY NAPAS

Country	Date of Submission	Country	Date of Submission	Country	Date of Submission
Bangladesh	November 2005	**Gambia**	January 2008	**Niger**	July 2006
Benin	January 2008	**Guinea**	July 2007	**Rwanda**	May 2007
Bhutan	May 2006	**Guinea-Bissau**	February 2008	**Samoa**	December 2005
Burkina Faso	December 2007	**Haiti**	December 2006	**Sao Tome and Principe**	November 2007
Burundi	February 2007	**Kiribati**	January 2007	**Senegal**	November 2006
Cambodia	March 2007	**Lesotho**	June 2007	**Sierra Leone**	June 2008
Cape Verde	December 2007	**Liberia**	July 2008	**Sudan**	July 2007
Central African Republic	June 2008	**Madagascar**	December 2006	**Tanzania**	September 2007
Comoros	November 2006	**Malawi**	March 2006	**Tuvalu**	May 2007
Democratic Republic of Congo	September 2006	**Maldives**	March 2008	**Uganda**	December 2007
Djibouti	October 2006	**Mali**	December 2007	**Vanuatu**	December 2007
Eritrea	May 2007	**Mauritania**	November 2004	**Zambia**	October 2007
Ethiopia	June 2008	**Mozambique**	July 2008		

NAPA projects submitted for funding

Eleven countries have developed a few of their highest priority projects into proposals for funding: Bangladesh, Bhutan, Burkina Faso, Cambodia, Cape Verde, Eritrea, Malawi, Mauritania, Niger, Samoa and Sudan. Projects range from community-based risk reduction interventions through to national and local-level capacity building initiatives. They address climate change problems in coastal zones, disaster risk management, food security, water resource management, health and ecosystems. Four examples from Bangladesh, Bhutan, Malawi and Sudan are presented here.

Bangladesh

The NAPA project submitted by Bangladesh is the second in Asia, after Bhutan. The Bangladesh NAPA identifies coastal communities as particularly vulnerable to climate change impacts such as salinity intrusion and inundation of coastal land as a result of sea-level rise and exposure to more frequent extreme climatic events. Indeed, without adaptation, 17.5 per cent of Bangladesh is likely to be submerged by 2030 due to climate change-induced sea-level rise affecting low lying coastal regions and floodplains. This could displace six to ten million people by 2050 and 20 million by 2100.

Bangladesh's priority project submitted to the GEF for funding is entitled *Strengthening adaptive capacities to address climate change threats on sustainable development strategies for coastal communities in Bangladesh*. The project aims to improve the resilience of coastal populations, settlements and ecosystems in areas exposed to coastal hazards, through coastal afforestation with community participation.

Specific project activities include: early warning systems for climate-related extreme events; community level pilot activities, such as mangrove and wetland restoration as part of a greenbelt project; and, innovative ways of securing potable water, such as rainwater harvesting and small surface and groundwater treatment facilities. Alternative climate resilient community livelihood opportunities will be promoted. The project will also focus on strengthening institutional mechanisms to build community resilience. This includes awareness raising activities and revising national and local plans to better integrate climate risk information into community and national level planning, especially plans relevant to coastal communities.

The project is promising, both because it was designed with detailed stakeholder consultations and because it is consistent with national development strategies, especially those for coastal areas. This will encourage long-term institutional buy-in for adaptation activities beyond the NAPA and longer-term mainstreaming of adaptation into national planning.

Bhutan

Bhutan's NAPA highlights the formation of supra-glacial lakes as a key climate change threat. Climate change-induced temperature increases are causing rapid meltdown of Himalayan glaciers, resulting in unsustainable water level increases in many of Bhutan's glacial lakes. This increases the risks of lakes 'bursting' resulting in Glacial Lake Outburst Floods (GLOFs), which can be catastrophic for Bhutan's densely populated valleys.

Current disaster management policies in Bhutan cannot cope with the increased risks posed by climate change-induced GLOFs. The project submitted from Bhutan's NAPA for GEF funding seeks to enhance this capacity in a particularly vulnerable region of Bhutan. It is entitled *Reducing climate change induced risks and vulnerabilities from Glacial Lake Outburst Floods in the Punakha-Wangdi and Chamkhar Valleys*. The project reduces GLOF risks from the potentially dangerous Thorthormi glacial lake. It also ensures that the existing early warning system in the Punakha-Wangdi Valley is expanded to incorporate climate change risk information.

Project components include, firstly, policy analysis and capacity building to improve national, regional and local capacities on climate resilient disaster risk management. This includes updating and synthesizing information on GLOFs, raising community awareness of GLOF risks and responses and strengthening district and national institutional capacities to reduce risk. The second component is physical interventions to reduce GLOF risks, including engineering and safety plans such as monitoring and lowering Thorthormi Lake water levels. The final component is reducing human and material losses in vulnerable communities in Punakha-Wangdi Valley through improved GLOF early warning systems.

At the national level, government capacity to deal with additional climate-induced hazards and to design, implement, evaluate and replicate systems for GLOF risk reduction and preparedness should improve. The project will also have wider scale benefits, as lessons learned from this pilot will be replicated in other GLOF risk areas, both within Bhutan and elsewhere.

Malawi

In Malawi, climate change-associated decreases in rainfall are causing severe water shortages. Rain-fed subsistence agriculture dominates the country and engages more

than 90 per cent of the population. Extreme weather events linked to climate change exacerbate food insecurity. Currently, 60 per cent of the population have insecure access to food each year. Malawi's NAPA, therefore, stresses how urgent it is to "improve community resilience to climate change through the development of sustainable rural livelihoods," and "to improve agricultural production under erratic rains."

The priority NAPA project submitted for funding is entitled *Climate Adaptation for Rural Livelihoods*. It aims to "improve resilience to current climate variability and future climate change by developing and implementing cost effective adaptation strategies, policies and measures that will improve agricultural production and rural livelihoods." The project specifically targets climate change risks, investing in activities to improve agriculture, land management, natural systems and rural livelihoods through targeted adaptation interventions. Activities include enhancing water distribution, promoting irrigation efficiency, changing irrigation schedules, recycling water, capturing groundwater and rehabilitating existing systems. Attention will also be given to water harvesting activities, including dam construction, dam and river catchment management and siltation reduction.

These activities are consistent with Malawi's poverty reduction strategies. They also feed into a second component of the NAPA project, which aims to create an enabling environment for climate risk management and build institutional capacity to support and scale-up activities and their longer-term impacts.

On-the-ground adaptation activities will build on interventions supported by the African Development Bank's *Smallholder Crop Production and Marketing Project (SCPMP)*, which aim to reduce vulnerability to existing climatic conditions. The NAPA project will, therefore, both enhance the robustness of the SCPMP project and provide stand alone adaptation benefits, including enhanced integration of adaptation into national and sectoral planning and wider learning on adaptation in semi-arid areas.

Sudan

Average annual temperatures in Sudan are likely to increase by between 0.8 and 1.7 degrees Celsius by 2030, accompanied by increasing rainfall variability and decreasing annual rainfall amounts. These will significantly affect food security in Sudan, a country where water resources are already limited and soil fertility is low. The Sudanese NAPA prioritizes adaptation options that focus on agriculture. It recognizes farmers who use traditional rain-fed techniques and pastoralists as among the most vulnerable to climate risks.

The project selected for submission to the GEF is entitled *Implementing NAPA priority interventions to build resilience in the agriculture and water sectors to the adverse impacts of climate change in Sudan*. The project aims to implement an urgent set of measures amongst small-scale farmers and pastoralists that will minimize and reverse their food insecurity resulting from climate change, including variability, and enhance their adaptive capacity. It focuses on three areas: water resources management, rain-fed agricultural production and rangeland productivity. The project also aims to promote the mainstreaming of short-term climate risks into policy and planning frameworks, enhance institutional capacity building and implement monitoring and evaluation systems.

Project components include, firstly, implementing pilot adaptation measures in demonstration sites, with activities such as rainwater harvesting, improved irrigation techniques, climate resilient cropping systems and livelihood diversification in five high risk areas.

"it is vital that NAPA projects receive the financial and institutional support they require"

The second project component is building national and local adaptive capacities in the agricultural sector, through early warning and climate risk management systems at central and local levels, training on climate risk management tools and revising agricultural policies and practices to incorporate climate risk information. A third component is knowledge

management to ensure lessons learned are better understood and emerging best practices are captured, drawn on and scaled up to support countrywide efforts.

The Sudanese project emphasizes learning from pilot activities to inform future adaptation actions, because according to the NAPA, no specific adaptation work is currently underway in Sudan. Implementing the priorities identified in the NAPA, therefore, represents a significant opportunity for Sudan to take action on adaptation and integrate evidence-based lessons on adaptation into national planning.

Conclusions

The projects described above respond to urgent and immediate adaptation needs, prioritizing the most vulnerable communities and seeking to build institutional capacities on adaptation. Of course, NAPA projects are few and far between compared to the scale of the problem faced by all LDCs and additional adaptation and development support is needed on a much greater scale. For example, the NAPA portfolio lacks any projects that focus on the institutional or structural reform of financial mechanisms needed to achieve effective adaptation at any reasonable scale. This is not, however, a failure of the NAPA process, because NAPA guidelines emphasize urgent action rather than strategic development planning. On the contrary, NAPA teams have responded well to their remit and projects identified in the NAPAs, although small-scale and limited in scope, describe potentially effective solutions to some urgent and immediate LDC adaptation needs. It is vital that NAPA projects receive the financial and institutional support they require, from donors, governments and climate change institutions, given that:

- projects respond to urgent needs so it is important funding is received quickly;
- projects have already been identified and are at varying stages of design. It is important for the LDCs that this long and much fought-for process is not wasted;
- projects are country-owned and already have national support. They have undergone participatory identification and design processes involving many stakeholders;
- projects are consistent with national development plans. This encourages mainstreaming and the scaling up of activities;
- project outcomes can feed into much needed evidence-based learning on how to actually do adaptation; and,
- although more strategic and programmatic National Adaptation Plans are needed in developing countries, NAPAs can provide a basis on which to develop these.

Implementing NAPA projects can help build LDC resilience. This is partly through direct project outcomes, but more significantly through the potential to catalyse wider understanding, uptake and action on adaptation both by the LDCs and the international community. NAPA project implementation must, therefore, be supported, evaluated and learnt from. ■

ABOUT THE AUTHOR

● **Jessica Ayers** is a contract researcher for the Climate Change Group at the International Institute for Environment and Development. She is also a PhD candidate at the London School of Economics, working on the governance of climate change adaptation.

CONTACT

● **Jessica Ayers**, DESTIN, London School of Economics, Houghton Street, London, WC2A 2AE, United Kingdom.
Email: j.m.ayers@lse.ac.uk

FURTHER INFORMATION

● **In the Cyberlibrary:**
Issue 65 of *Tiempo* was a special issue on NAPAs and can be downloaded at www.tiempocyberclimate. org/portal/bulletin.htm.

● **On the Web:**
The 2007 European Capacity Building Initiative report, *Lessons Learned in Preparing NationalAdaptation Programmes of Action in-Eastern and Southern Africa*, by Balgis Osman-Elasha and Thomas Downing can be downloaded at www.eurocapacity.org/public/publications.html.

NEWS

CARBON LEVELS

The latest global data show that the growth in atmospheric carbon levels continues to accelerate.

"This new update of the carbon budget shows the acceleration of both carbon dioxide emissions and atmospheric accumulation are unprecedented and most astonishing during a decade of intense international developments to address climate change," commented Pep Canadell of the Global Carbon Project. Emissions growth over the period 2000-2007 was four times faster than in the previous decade.

Read more: www.tiempocyberclimate.org/newswatch/archive/arweek081012.htm

MEAT

A meat-eating diet results in almost twice as much greenhouse gas emissions as a vegetarian diet, according to a new study from the Institute for Ecological Economy Research in Berlin.

"The cow is a climate bomb," warns Thilo Bode of Foodwatch. Producing a kilo of beef generates almost three times the emissions generated in raising a kilo of pork. Meat should become a luxury food once more. The study concludes that, overall, the worst source of agricultural emissions, making up 30 per cent of the total, is the draining of wetlands, as a result of the carbon released from the soil.

Read more: www.tiempocyberclimate.org/newswatch/archive/arweek080907.htm

EMISSIONS

A Greenhouse Development Rights framework has been proposed that would allow poorer countries to continue developing while contributing to greenhouse gas emissions reductions without any substantial effect on their economies.

Affluent nations, as well as taking on responsibility for the bulk of emissions reductions, would subsidize emissions controls and adaptive measures in the poorer nations with low emissions. The plan has been developed by EcoEquity and the Stockholm Environment Institute.

Read more: www.tiempocyberclimate.org/newswatch/archive/arweek080803.htm

CLEAN ENERGY

During 2007, new investment in clean energy reached nearly US$150 billion, a rise of 60 per cent on the previous year. Achim Steiner, head of the United Nations Environment Programme, described the trend as "nothing less than a fundamental transformation of the world's energy infrastructure."

Wind energy gained most of the new funding, over US$50 billion, whilst solar power gained almost US$30 billion. With 31 gigawatts of new installed generation, sustainable energy accounted for almost a quarter of new power capacity globally.

Read more: www.tiempocyberclimate.org/newswatch/archive/arweek080810.htm

DAMAGE

A British jury has accepted that six campaigners had a "lawful excuse" in causing more than £35,000 worth of damage to a coal-fired power station to prevent greater damage caused by climate change.

James Hansen of the National Aeronautics and Space Administration in the United States testified at the trial regarding the dangers posed by global warming and called for a moratorium on all coal-fired power stations. "This verdict marks a tipping point for the climate change movement," commented defendant Ben Stewart from Greenpeace.

Read more: www.tiempocyberclimate.org/newswatch/archive/arweek081005.htm

Tiempo Interview: Mickey Glantz

Mickey Glantz discusses the role of social science in climate research and the development of policy

What contribution can social scientists make to climate science and, at a broader level, to society's response to the issues of climate variability and climate change?

Humans are now an integral part of the physical global climate system. A thousand years ago that was not the case. Today, however, our industrial processes, and our land use activities and impacts are influencing the atmospheric chemistry and processes at the regional to global levels. In a way, we are like sea ice, forests and deserts in that we can identify our influences on the atmosphere. Therefore, social scientists must be considered as an integral part of the climate research community and not apart from it. The social sciences' contributions to climate research are no longer just to be tolerated. They must be embraced by the climate research community. They can also provide critical insights to the physical sciences about the kinds of research findings that are needed by decision makers in a wide range of socio-economic sectors of society.

Science has progressed since the 1960s. It used to be 'science for the sake of science'. From the 1970s to the 1990s, there was a shift to 'science for the people'. Today, I believe it has shifted to 'science with the people'. The physical sciences always needed the social sciences to further their research but now they need them more than ever. And there are many examples of successful collaboration, cooperation and integration among the physical and social sciences and the humanities, more so today than a couple of decades ago.

MAIN POINTS

- **Mickey Glantz discusses** the role of social scientists in improving understanding of the climate issue.
- **He emphasizes** the need for greater collaboration between social and physical scientists.
- **His new Consortium** for Capacity Building at the University of Colorado, Boulder, in the United States, will provide important training opportunities.

Much of your work has been in support of developing countries. What are the major challenges for scientists and policy makers right now in these countries?

I believe that there is considerable expertise in developing countries on climate-society-environment interactions. I think that the Intergovernmental Panel on Climate Change (IPCC) process over the years has helped to improve climate knowledge and expertise throughout many parts of the so-called Third World. The problem lies with the North in that it continues to treat developing country scientists in general as junior partners always in need of more training. What the developing countries need is access to funds that they can use to foster in a major way South to South cooperation and interactions. They lack in general the needed resources to come together when they want to interact. Usually, the North is somehow involved and controlling the purse strings and, therefore, the agendas.

Have you any comment on the manner in which the IPCC is taking account of the insights of social science? Social scientists do seem to have had much more of a voice in the latest two assessments.

Following the Fourth IPCC Assessment in April 2007 I believe that the climate research community won the proverbial battle. People, corporations and governments seem to have either accepted that human activities are affecting global climate or that it is no longer worth their efforts to fight the advocates who argue that the Earth's atmosphere is warming at alarming rates and to dangerous levels for ecosystems and societies. However, by winning that battle, climate science has become now less urgent. The climate problem is now a mitigation and adaptation problem. Working Group 2 on impacts and adaptation deserves more attention and funding than has been the case in the past, and that would include more support for those involved in researching the interface between natural and social processes.

There is a call to use some of the IPCC Nobel Prize funds for fellowships for postgraduate and advanced students in developing countries. There does not seem to be any appreciable concern about providing such funding for those interested in social science and humanities-related aspects of climate change, just the physical, chemical and biological sciences. Moreover, there is no mention of support for undergraduates in developing countries. Yet, undergraduates are in the midst of selecting their lifelong careers. Exposing them to climate, water and weather issues gives them glimpses of alternative career possibilities. In addition, undergraduates are but a few years away from being in the workforce and involved in government, corporate or other decision-making processes. They provide considerable value for money invested in improving climate knowledge of potential leaders.

Over the past 35 years, Mickey, you've pioneered the incorporation of social science concerns into climate research. How much of a personal battle has it been, working in a stronghold of the physical sciences?

It has been a struggle doing social science research at the National Center for Atmospheric Research (NCAR) ever since the early days. Social science efforts are clearly viewed as less important than physical science activities. They have been second-class citizens, despite words to the contrary. Social science efforts at NCAR never received significant funding. We had to do the best we could with what we were given.

I went to NCAR in July 1974 as a postdoctoral fellow and political scientist, but soon reverted to the more general label of social scientist as I began to research multifaceted environmental issues related to the climate system: drought, flood, fire, deforestation, desertification, El Niño and famines. At first I got to work for, and with, Dr Walter Orr Roberts, the founder of NCAR. He was great, the best mentor and boss I have had in 34 years there. It was exciting in that it was a new focus for me. Walt Roberts gave me part of his climate grant to look at the value of a long-range forecast for the West African Sahel and for the spring wheat region in the Prairie Provinces of Canada. It was good timing for me. In the early 1970s, there was a renewed interest in climate impacts because of the global food crisis then. It was

also a couple of years after the United Nations Stockholm Conference on the Human Environment. Before shifting to climate impacts research, I had studied and researched violent political revolutions and specifically focused on the Portuguese colonial wars. Those wars were drawing to a close by the middle of the 1970s.

There were a few breakthroughs from a personal standpoint. I was allowed to organize a conference in 1977 on 'Multidisciplinary Aspects related to the Atmospheric Sciences'. I was appointed the head of the Environmental and societal Impacts Group in 1979. That allowed me to invite social scientists to NCAR and to develop an advisory committee that was involved in the social aspects of climate and weather issues. With support from various United Nations agencies, especially the United Nations Environment Programme (UNEP), we were able to develop the Network Newsletter to identify a community of people, at first in North America and then internationally, interested in climate-related impacts research, application and outreach.

Another breakthrough in the 1970s was to help to focus attention on the politics of so-called natural disasters such as droughts. To the mid-1970s, it seemed that most blame for impacts of climate anomalies was focused on the physical effects of a drought or tropical storm, for example, neglecting the human dimension. The need to study more closely the interactions among climate, human activities and environment was elevated to a new heightened level of visibility, showing that situations like the Bengal famine of 1943 was really not unique in its occurrence.

After the 1970s, it became fairly lonely as a social scientist at NCAR. I had to rely on meetings and discussions with social scientists off-site at universities and in government agencies. The computer, though, eventually made it a lot easier to network and be more interactive with others around the globe in real time. I should add that I could not have completed so many projects if it had not been for the great support that I had from my close co-workers and assistants at NCAR, such as D Jan Stewart, editor of the Network Newsletter.

The bottom line, though, is that there are only a few social scientists at NCAR at present out of a few hundred other scientists. There is only one, myself, who made it to the highest rank of senior scientist. In 2009, after I have left, there will be no senior scientist from the social sciences left in the place. This situation is why I wrote a recent editorial pleading with the NCAR and the management at the National Science Foundation to tear down the invisible wall between the physical and social sciences (www.fragilecologies.com).

How much support have you had over the years?

Overall, I have to say that it is unlikely that I could have done all of the research and outreach activities I set out to do in any other place. NCAR's base funding for salary and travel, for example, allowed me to address controversial, unpopular or neglected physical, biological and social science issues related to climate, water and weather. I was able to supplement the base funding for myself and a few other social science colleagues with

CONSORTIUM FOR CAPACITY BUILDING

The Rockefeller Foundation and the University of Colorado, Boulder, have announced that the Center for Capacity Building, renamed the Consortium for Capacity Building (CCB), will move from the National Center for Atmospheric Research to the university under an initial US$1 million, two-year grant. "The Rockefeller Foundation is proud to support the Consortium for Capacity Building, one of today's leading climate change research and teaching institutions," said Judith Rodin, the Foundation's president. "This single grant will equip hundreds - and eventually thousands - of scholars and practitioners with the scientific tools to understand and address the effects of the global climate crisis. It will also add CCB to the Foundation's growing network of partners in Africa, Asia, and around the world."

funds from various United Nations agencies (especially UNEP, the World Meteorological Organization and the Food and Agriculture Organization) and agencies in the United States for workshops, conferences and field trips on a wide range of climate-related topics. However, life at NCAR has not been perfect. For example, for some time I have been thinking about whether I am 'of' NCAR or 'from' NCAR. Most of the intellectual stimulus really comes from outside the organization even though I wanted to be an integral part of it. Throughout the years, especially since the mid-1980s, I have felt there was no leadership at NCAR that appreciated the societal side of atmospheric science. My network of support was outside the institution. Inside the institution, however, I was able to receive valuable education and training through various science mentors about the physical-climate system.

The most support I have had came in the 1970s, and again in the past few years with the creation and elevation of social science efforts to the laboratory level, equal to a science laboratory. That only lasted a few years as the social science lab was disbanded in May 2008 for alleged budgetary reasons, though I suspect anti-social science bias played a part. About three months later, my Center for Capacity Building was dissolved, yet another blow to NCAR's social science activities. These actions suggest that NCAR does not now see societal aspects of its physical science research as an integral part of its 'core' activities, that is, the modeling of the Earth's atmosphere, a computing facility and an aircraft facility. If what the managers are now saying is valid, all other activities at NCAR are susceptible to budget cuts.

A couple of years ago I started to jot down notes about my observations about social science in the midst of a physical science institution. I gave it a working title of "A Perfect Job in an Imperfect Place", the point being I was able to accomplish more than a career's worth of work in an organization that was not as supportive as it should or could have been. My job was perfect in that I had considerable autonomy to identify and pursue research and outreach issues of my choosing. I was able to work within the rules without breaking them. Sometimes, I stretched the rules to their outer limits though I never broke them! But a mismatch developed between the goals of the organization after the mid-1980s or so. Now, at a time when the mantra of society has become 'science with the people', it seems that the mantra of NCAR is still focused on science for the sake of science, the institution's written statements to the contrary notwithstanding.

Thank you for your time, Mickey. I'd like, on behalf of our readers, to wish you all the best in your future activities.

ABOUT THE INTERVIEWEE

● **Mickey Glantz** is a social scientist, interested in how climate affects society and how society affects climate, especially in quality of life issues. After 35 years, he is soon to leave the National Center for Atmospheric Research and establish the Consortium for Capacity Building at the nearby University of Colorado, Boulder, in the United States.

CONTACT

● **Michael H Glantz,** Institute for Arctic and Alpine Research, University of Colorado, Campus Box 450, 1560 30th St, Boulder, Colorado 80309 0450, USA.
Email: michael.glantz@colorado.edu; mickeyglantz@hotmail.com
Web: www.fragilecologies.com; www.ccb.colorado.edu

FURTHER INFORMATION

● **On the Web:** Mickey Glantz has published a number of commentaries on the Fragile Ecologies website at www.fragilecologies.com.

French Tiempo launched

TIEMPO AFRIQUE

The editors of *Tiempo* have long recognized the need to provide information on climate change and development in other languages. But now, with the confluence of additional funding from the Swedish International Development Cooperation Agency (Sida) and capacity in the form of Environnement et Développement du Tiers Monde (ENDA), the opportunity has arrived for providing a French version of *Tiempo*, targeted to a West African audience.

The vulnerability of the world's Least Developed Countries to climate change is widely acknowledged. Several of these countries are located in French-speaking West Africa. They

The Tiempo Afrique team Photo: © Richard Clay

are at a particular disadvantage because the majority of information on climate change is only available in English. And yet, without accurate information available on climate change, policy makers cannot be expected to make informed policy decisions and plan effectively for a climate constrained future. The problem of languages is not limited to the availability of written materials. Much of the negotiations under the official United Nations Framework Convention on Climate Change are conducted in sessions where translation from English is unavailable. For countries that already struggle to negotiate against the well-resourced negotiating teams from wealthier nations, this adds yet another challenge.

Material in *Tiempo Afrique* will include both articles translated from the English language version of *Tiempo* and articles sourced and commissioned of particular relevance to the region. In time, material published in *Tiempo Afrique* will also be translated and published in the English version of *Tiempo*.

FURTHER INFORMATION

The first issue of *Tiempo Afrique* will be published in October 2008. Authors wishing to submit articles for future issues should contact Djimingué Nanasta on dnanasta@yahoo.fr and Nogoye Thiam at nogoyet@yahoo.com with suggestions. If you are living in a developing country or working on climate and development issues then you can request a free subscription to the quarterly printed bulletin, *Tiempo Afrique,* by contacting Nogoye Thiam, Djimingué Nanasta or Nathalie Koffi by email at enda.energy@orange.sn, by post at ENDA TM, Programme Energie, Environnement, Développement, 54, rue Carnot - BP 3370, Dakar, Sénégal, or by fax at +221-33-8217595.

Focus on Accra

NEWS

DATELINE

The latest round of climate negotiations took place in Ghana in August 2008. Newswatch editors Sarah Granich and Mick Kelly report.

Opening the Accra Climate Change Talks, John Agyekum Kufuor, president of Ghana, called for an "international deal... in which developing countries commit to plan for climate resilient development. In return the international community should commit to provide adequate, predictable, long-term funding and support in terms of technology transfer and capacity building." The Accra meeting is the latest stage in the development of strengthened long-term action on climate change. Agreement needs to be reached by the time of the Copenhagen meeting in December 2009. "The clock is ticking," Kufuor warned. "We need to be pragmatic and move beyond rhetoric to make progress as we move towards Copenhagen."

In his opening address, Yvo de Boer, executive secretary of the Framework Convention on Climate Change Secretariat, noted that Africa is "the climate change regimes's forgotten continent," with a limited number of Clean Development Mechanism projects and relatively low funding from the Global Environment Facility. "If this meeting can be a step towards the design of a regime that helps Africa to achieve clean economic growth and deal with the impacts of climate change through effective mechanisms that deliver on finance, technology and capacity building, you will have done very important work here," he continued.

Agreement does seem likely on the inclusion of deforestation-related measures in any post-Kyoto framework, backed by a new financial mechanism. The possibility of sector-specific emissions reduction targets, aimed at high-polluting industries, was a major focus of discussion in Accra. It has been agreed that developing countries will not have to accept binding sectoral targets, though voluntary sectoral initiatives may be included in an upgraded Clean Development Mechanism. The developing nations continued to resist pressure to expand the number of countries covered by binding emissions reduction targets.

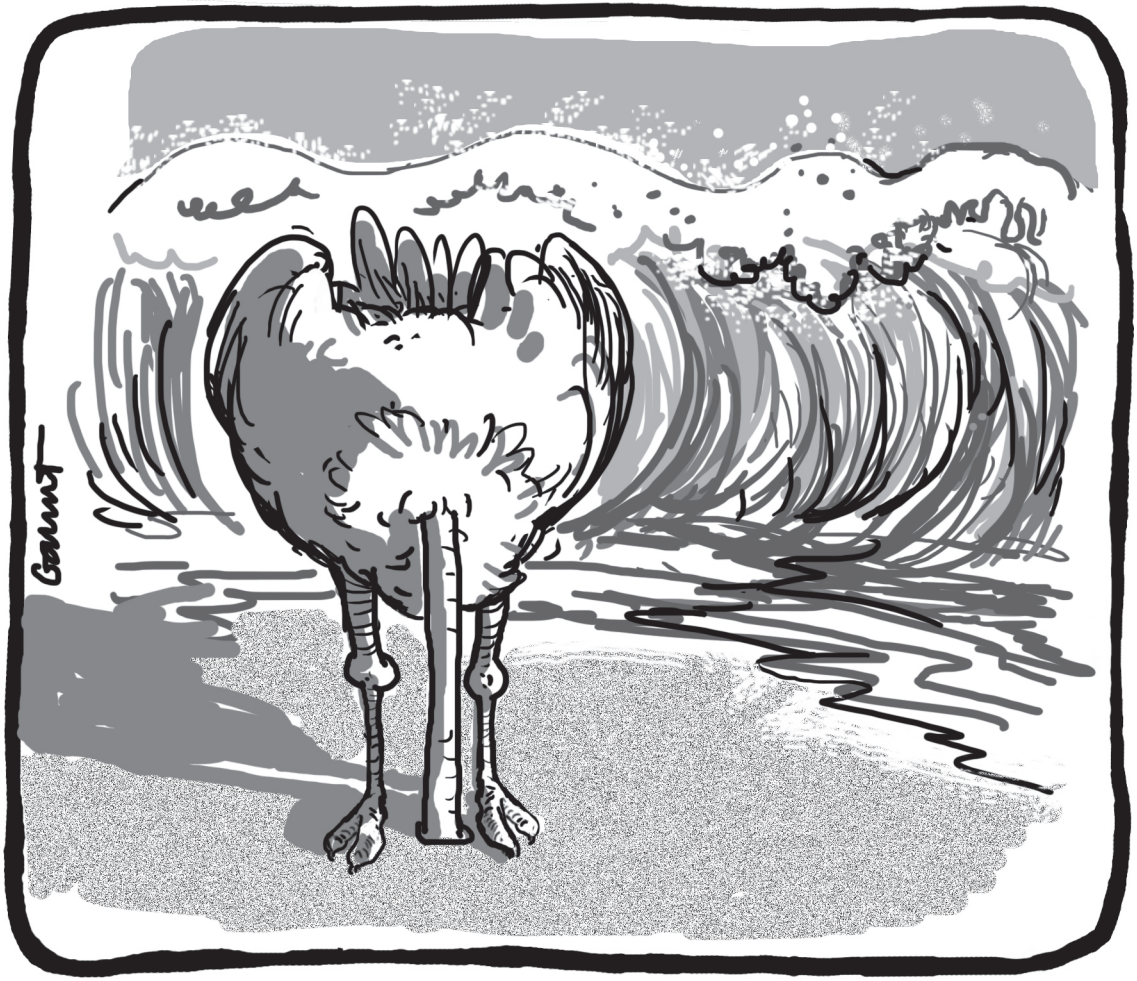
The European Union was heavily criticized for not committing additional funds to assist the developing country response to climate change as the Accra climate change talks came to a close. "A serious and equitable response... will require rich countries to pay billions in public funds to help poor countries develop in a sustainable, low carbon manner. So why has the European Union, which likes to claim global leadership in the response to climate change, turned up with empty pockets again?" asked Nelson Muffuh, adviser to Christian Aid, speaking on behalf of a number of African non-governmental organizations. The World Bank announced recently that developing countries would require 170 billion US dollars between now and the year 2030 to mitigate and adapt to climate change.

Long-standing obstacles remained firmly in place at the Accra talks. The United States, for example, continues to refuse to accept binding emissions targets and this position is unlikely to change before the presidential elections later this year. Japan, Canada, Russia and Australia were also accused of stalling tactics. Nevertheless, de Boer is confident that progress is being made. "Governments are very committed to this process. I feel sure that the train will reach Copenhagen as planned," he said.

The next negotiations will take place in Poznan, Poland, in December 2008.

● **Further information:** The Tiempo Climate Cyberlibrary' provides coverage of current climate events at www.cru.uea.ac.uk/tiempo/newswatch/.

A GAUNT VIEW



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Editorial team:
Saleemul Huq, Hannah Reid, Sarah Granich, Mick Kelly, Johan Kuylenstierna

Editorial liaison:
Richard Klein

Editorial office:
Tiempo, International Institute for Environment and Development, 3 Endsleigh St, London WC1H 0DD, UK.
Fax: +44-20-73882826
Email: hannah.reid@iied.org and saleemul.huq@iied.org

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Production manager:
Erik Willis
Layout: Richard Clay, Nathalie Koffi
Programme coordinator:
Johan Kuylenstierna
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Bracken Hill Design

Climate change costs in Namibia

Poor nations will suffer most from climate change, in part because of heavy reliance on climate-sensitive sectors such as agriculture and fishing. Up to 30 per cent of Namibia's Gross Domestic Product (GDP), for example, depends on the environment.

Ironically, poor nations have contributed least to climate change. Namibia was estimated to be a net carbon dioxide sink in 1994 due to uptake by trees.

Namibia's advanced Natural Resource Accounts (NRA) help to evaluate the contribution of the environment to national wealth by developing 'satellite' accounts for natural assets such as fish and forests. NRA data can be fed into conventional national economic accounts - a clear advantage for policy makers in natural resource dependent economies.

Feeding NRA data into a model reveals that under a best-case scenario, agricultural impacts would be partly offset by improved water distribution, there would be no impact on fisheries and Namibia's GDP would fall by roughly one per cent. Under a worst-case scenario, reduced agricultural and fishing outputs means the GDP could fall by almost six per cent over 20 years. These estimates, however, only consider agriculture and fisheries. They ignore impacts on the health, infrastructure and energy sectors that will also be significant.

THE FINAL WORD

James MacGregor quantifies the costs of climate change on Namibia's natural resource dependent economy and people

Combining NRA data with Namibia's Social Accounting Matrix shows that climate change impacts will hit the poor hardest. Even under the best-case scenario, subsistence farming will be sharply reduced. In the worst-case scenario for agriculture, labour intensive livestock farming is hit hard. While high-value irrigated crop production could thrive, it creates few jobs. Thus, even under the best-case scenario, a quarter of Namibians would need to find new livelihoods. Displaced rural populations could move to cities causing incomes for unskilled labour to fall by 12 to 24 per cent. Income distribution in Namibia is already one of the most uneven in the world and this inequality is likely to increase.

Nations such as Namibia cannot afford to ignore the contribution of the environment to national wealth in the face of climatic shifts. Along with 'climate-proofed' policies and activities, Namibia needs a strategy to deal with displaced farmers and farmworkers. Industrialized nations, who are most responsible for climate change, must help Namibia and other vulnerable countries cope with the impacts and plan for a climate-constrained future.

James MacGregor is a researcher with the Environmental Economics Programme at the International Institute for Environment and Development in London, UK.
Email: james.macgregor@iied.