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Cover photo: No home to go back to, a year after the cyclone, Bangladesh © Moneer ul Islam/Oxfam



Children, Vietnam

Engaging local society

Luong Quang Huy describes a participatory research approach designed to empower local communities in adapting to socio-economic and climate trends

t was around lunch time on a day in late September 2005. Autumn was already around the corner but the midday heat, accompanied by strong wind from the open sea, made standing on the area next to the sea dyke in Giao Thuy district almost unbearable. Everything around myself and my colleagues seemed so quiet and peaceful, a day like any other summer day in this rural area in the north of Vietnam. It was almost impossible to believe, let alone to properly comprehend, that just a few days ago this area suffered from one of the worst natural disasters in the past 70 years in this area - the Damrey tropical storm.

Not far from where I was standing, a few men and women were working on their family rice field, trying to patch the damaged bank caused by the storm. Wiping the sweat on his forehead, Mr Nguyen Van Minh, a typical rice farmer and a father of four, looked up at us without the slightest curiosity when we approached him, and

asked: "You reporters come here to write about the storm?"

"No, we are researchers," we answered, "but we do want to learn of what happened to your family and people in the district."

"Oh, right," he replied, with what seemed

MAIN POINTS

- The author outlines a participatory research approach addressing adaptation to socioeconomic trends and climate change.
- The project resulted in a framework that encouraged local communities to use reflexively what they already have, such as their knowledge and connections, and to

apply critical thinking on a daily basis.

● The most significant aspect proved to be the capacity to establish networks to make the best of available resources. not only to reduce vulnerability to longterm change, but also to improve social coherence and living standards in the present-day.

to be no surprise at all, from his facial expression. "What are you researching this time?"

"Well, we'd like to know how you respond and cope with disasters, like that Storm No.7," we answered, trying to make conversation. "How is your family coping?"

"We just wish we could have other work to earn more money, then we would not have to rely on this rice field, and lose almost all of it

TYPHOON DAMREY

Typhoon Damrey, known as Storm No.7 (2005) in Vietnam, struck northern Vietnam on September 27th 2005, affecting coastal provinces from Quang Ninh to Da Nang. The following day, heavy rains and wind triggered mudslides and flooding in the provinces of Yen Bai, Lao Cai and Phu Tho. Thousands of people were left homeless and many lost their means of income and subsistence as rice fields, ponds and farms were left damaged.



Fleeing Typhoon Damrey, Giao Thuy district, Vietnam

Photo: © Luong Quang Huy

after a storm like this", he replied, and rather gave us the signal 'Do not disturb' by turning back to his work on the rice field bank. But just before we left, he said, "Those shrimp farmers out there," pointing to the shrimp farming area behind the sea dyke, "lost more than us but they are still alright."

And that was the end of our brief conversation with Mr Nguyen Van Minh, a local farmer who mostly works on his rice field and family livestock but sometimes travels to Hanoi to work as a construction worker between the rice seasons.

The last thing that Mr Nguyen Van Minh said to us was difficult to understand. How

could shrimp farmers, who lost most, or even all, of their investment on the shrimp farm that year be "still alright", as Mr Nguyen Van Minh put it? There seemed to be a touch of envy, perhaps resentment, in Mr Nguyen Van Minh's voice when he referred to them.

Moving beyond the sea dyke to the shrimp farming area, we met Mr Tran Tuan Anh, a shrimp farm owner, who was supervising his workers. These workers, we later learnt, were local rice farmers hired for a few days to help deal with the storm damage to his shrimp farm.

We asked him about his loss caused by the Damrey. "Yeah! my family lost quite a lot, most of our investment this year, but it should be OK, we can reinvest with help from our extended family and other shrimp farmers - it will be quite a bit of investment for the next season, but it should be OK," he answered, with a calmness and confidence that we did not find in Mr Nguyen Van Minh.

This brief visit to a coastal district in the north of Vietnam was undertaken during pilot work for the research project that formed the basis of a postgraduate thesis undertaken in the Climatic Research Unit at the University of East Anglia in the United Kingdom. It had already raised many questions regarding coping and adaptive capacity at the local level in environment-dependent, developing communities - about the need for livelihood diversification and how that requirement could be met, about differential abilities to cope within a community, about why some people can meet disaster with confidence and others not, about how inequity can erode solidarity within a community and, last but not least, about the responsibility of the researcher when interacting with local people in the aftermath of disaster.

The starting point for the research was the concern that local knowledge and understanding, a vitally important element of social, economic and political lives in any given community, has historically been undervalued and underused in climate vulnerability and adaptation research. As local knowledge evolves constantly in response



Shrimp farm, Giao Thuy, Vietnam

Photo: © Luong Quang Huy

to changing conditions, it has in itself a high level of adaptive capacity. Building on the inherent evolution of local knowledge to develop new expertise, understanding and applications may help local communities analyse and anticipate future changes, rather than simply observing events and responding to them as they occur. While climate studies often make use of local knowledge as input during the research process, participatory methods have tended to be information-extractive rather than -interactive. Is it possible to empower individuals and communities by developing local knowledge through greater engagement in the research process itself?

The research was based on fieldwork in the case study area, Giao Thuy district, and made use of surveys, interviews, focus groups, participatory methods, scenario development and statistical analysis. The approach to vul-

nerability drew on the author's involvement in research projects in the Red River Delta of northern Vietnam conducted by the University of East Anglia and the Centre for Environment Research Education and Development in Hanoi. An initial assessment resulted in a framework of differential vulnerability amongst the livelihood groups within the community, which was used as a basis for subsequent analyses. A scenario development approach was then used to engage the local community in the research process over a prolonged period, considering their current socio-economic and environmental circumstances and possible futures, explored through reflection regarding personal livelihoods and community prospects and aspirations. The process, which was conducted over a one-year period, was designed to develop local knowledge and understanding and to share perceptions between groups within the community. Towards the end, local participants were questioned about the impact of engagement in the research process on levels of confidence, perceptions of empowerment and other benefits.

The vulnerability analysis confirmed that the process of economic renovation has significantly affected the development of Giao Thuy district. While the community has become wealthier overall, income inequality increased sharply during the early years of the present century. Vulnerability is also being affected, adversely in many circumstances, by changes in market policies and the dismantling of agricultural cooperatives. Analyses of income disparity and other factors affecting local vulnerability identified four major

GIAO THUY DISTRICT

GiaoThuy district is a coastal area, covering 16,300ha of Nam Dinh province. The population stood at approximately 212,000 by the end of 2007, with a steady growth rate of 1.4 to 1.5 per cent over the previous decade or so. The district is located in one of the fastest developing economic zones in Vietnam and local livelihoods are relatively diverse. Rice cultivation remains the main eco-

nomic activity, but, as a result of the economic renovation process of doi moi. aquaculture, fishing, salt making, sea-food processing and other trading and services related to the agricultural and aquacultural sectors now supplement the incomes of many households.

In what remains a predominantly agricultural community, the development of economic groups whose

livelihoods are largely independent of the environment. such as traders, now contributes significantly to the local economy and assists a large number of households to diversify their livelihoods. Nevertheless, a large part of the district's population remains poor, income inequality is increasing and the majority of the population is highly dependent on the environment.

groups in the community: agriculture; aquaculture; trading and services; and manufacturing, construction and industry. The former two are termed the environment-dependent groups and the latter two environment-in-dependent.

The identification of these groups proved a critical finding of the research. The research compared and contrasted the situation of these groups and their perceptions in order to define how local knowledge and understanding may be cultivated further and the implications of this development. It emerged that the newly established environment-independent groups are heavily reliant on community networks to sustain their livelihoods and, as a result, are enhancing their social capital, developing coping and adaptive capacity. Such networks are a major means by which local knowledge is shared. Members of these networks are seen as gaining certain advantages compared to those who are not actively involved. Networking, therefore, as a means of developing community knowledge and understanding became a principal focus of the research.

While all four economic groups showed a similar level of knowledge and understanding acquired over the years with regard to their immediate livelihoods and related climate and socio-economic conditions, the environment-independent groups have made use of a considerably wider range of information sources, facilitated by the networks that they developed as they diversified their livelihoods.



Storm damage to coastal defenses caused by Typhoon Damrey, Giao Thuy, Vietnam

Photo: © Luong Quang Huy

This strengthened their ability to access, share and make effective use of knowledge and understanding, and, therefore, of existing resources. It was widely accepted that the level of information and knowledge was not in itself the pivotal factor in building capacity to better cope with stress. The most important factor was the capacity to network in order to enhance social capital, obtain information, and most importantly, use such information and the social relationships to diversify economic activities, improve living standards and, thereby, cope with stress more effectively.

The agriculture group and, to a lesser extent, the aquaculture group remain relatively

isolated in terms of access to information sources. They are reliant on sources close to their households and do not benefit from networking, in terms of widening access to information and ideas. The environment-independent groups have used their resources to improve substantially their situation and incomes, in particular, by expanding into lower risk economic activities, sharing contributions towards improvements in their households' livelihoods and cooperating with other groups to share possible risks. The environment-independent groups have developed a strong sense of the value of widening their knowledge base, an appreciation



Rice field, Giao Thuy, Vietnam

Photo: © Luong Quang Huy

not previously manifested across the whole community. The activities developed by these groups contribute to lowering the level of exposure to risk among the community.

Community involvement in the development of a climate and socio-economic scenario for the medium-term future provided a means of addressing the possibility of empowerment by engaging the local community in the research process. It was found that the research process enabled the participant households to think critically and reflexively by analysing the implications of socio-economic and environmental developments in relation to their present and future lives, especially in terms of coping and adapting to stresses. Most importantly, it enabled them to acknowledge other groups' capacities and limitations in a comparative manner, thereby recognising what they could do to improve their own adaptive capacity. In particular, the environment-dependent groups recognised the advantages gained by the environment-independent groups in developing social networks through which information was shared and knowledge developed. The former acknowledged that they had the capacity to develop further their own networks.

A survey undertaken towards the end of the year-long fieldwork showed that a majority of individuals and households involved

in the research acknowledged a significantly higher level of confidence, inspiration to take action and empowerment as a result of engagement in the research process. They expressed two important benefits of having engaged in the research process, namely recognition of the importance of social networks in coping and adaptation and improved capacity to cope with and adapt to climate impacts and socio-economic changes through increased understanding. A number of households and individuals had acted on the understanding gained during the scenario development process, not only by accessing further information and knowledge but also by setting up groups and networks based on common interests to tackle difficulties in diversifying economic activities and increasing preparedness to cope with climate impacts. During the final stage of the research, a framework for initiating activities aimed at the establishment of social networks to support livelihood diversification and enhance coping and adaptive capacity was proposed by the participants, providing concrete evidence that the local community had recognised the importance and significance of the capacity to network and found ways of implementing this. A high percentage of individuals and households regarded the increase in empowerment they perceived had occurred as a result of engagement in the research process as highly effective in support of their capacity in to prepare for climate hazards and, in the longer-term, develop adaptation activities.



Storm damage caused by Typhoon Damrey, Giao Thuy, Vietnam

Photo: © Luong Quang Huy

The most striking and significant achievement of the project has been a framework to encourage local communities to reflexively use what they already have, such as their knowledge and connections, and apply critical thinking on a daily basis. A critical aspect proved to be the capacity to establish networks to make the best of available resources, not only to reduce vulnerability to long-term change but also to improve social coherence and living standards in the present-day. While this particular con-

clusion may be specific to the study area, it is hoped that the participatory research approach can be applied in other parts of Vietnam and, taking account of cultural differences, to other nations. It remains to be seen what the longer-term effects of involvement in the project will be, but the local people, through engaging in the research process, have by their own assessment been empowered to analyse critically their situation, recognise problems and propose solutions.

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NEWS

EMISSION CUTS

Governments are risking human lives by underestimating the emissions cuts needed over the next 40 years, according to a new report from Friends of the Earth (FoE).

For a reasonable 70 per cent chance of avoiding unacceptable impacts - a alobal temperature rise of less than two degrees Celsius - emissions would need to fall 16 per cent below 1990 levels by the year 2030. Government calculations are based on a 50 per cent probability, "This is a reckless gamble with the lives and livelihoods of millions of people on the planet," said FOE's Andy Atkins.

Read more: http://tinyurl.com/45qc35h

CARBON PERMITS

The European Commission suspended trading in carbon permits in January 2011 after permits worth millions of euros were stolen in online attacks on electronic registries.

"It could be a concerted action by fraudsters to get access and steal permits from legitimate accounts to sell on spot markets before the thefts were discovered," said Maria Kokkonen, speaking for Connie Hedegaard, European commissigner for climate action. "By investing tens of thousands of euros to upgrade their IT systems. member states could prevent losses on the scale of millions of euros." she said.

Read more: http://tinyurl.com/4tj3dfl

DISASTERS

The number of weather-related disasters in 2010 provides "further evidence of advancing climate change." according to reinsurance company Munich Re.

Nine hundred and fifty natural disasters were recorded last year, the second highest number of natural disasters recorded since 1980, and ninetenths of them were weather-related events such as storms, floods or heatwaves. The death toll over 2010 exceeded 295,000 and economic losses amounted to LIS\$130 billion.

Read more: http://tinyurl.com/4/7f3nv

SOIL IMPORTS

The government of the Maldives has opened discussions with Bangladesh regarding a means of reducing its vulnerability to climate change. "They want to import soil from our country in defense against rising sea levels," said Muhammad Faruk Khan, Bangladesh commerce minister.

The rivers of Bangladesh have to be dredged because the large volume of sediment brought down from the Himalayas is making navigation difficult. The Maldives needs sand for its coastal protection measures. "We are more than happy if the deal works out because it will be beneficial for a brotherly nation," Khan said.

Read more: http://tinyurl.com/48rs4v2

BIODIVERSITY

The United Nations has approved the creation of the Intergovernmental Science Platform on Biodiversity and Ecosystem Services (IPBES). The IPBES aims to catalyse a global response to the loss of biodiversity and the world's economicallyimportant forests. coral reefs and other ecosystems.

"IPBES represents a major breakthrough in terms of organizing a global response to the loss of living organisms and forests, freshwaters, coral reefs and other ecosystems that underpin all life, including economic life, on Earth," said Achim Steiner, head of the United Nations Environment Programme.

Read more: http://tinyurl.com/4snnyvg

Adaptation and disaster risks

Roopa Rakshit discusses ways to link disaster risk reduction and climate change adaptation that emerged during discussions at a Bangkok seminar

he Regional Climate Change Adaptation Knowledge Platform for Asia held the first of a series of bi-monthly Knowledge Sharing and Learning Seminars on March 31st 2010 in Bangkok, Thailand. The seminar provided an informal setting that enabled over 70 adaptation, development and environment practitioners, representatives of national, regional and international organizations from 38 organizations based in Bangkok, to meet, network, share and learn from discussion and debate.

The theme was linkages between disaster risk reduction and climate change adaptation. Ensuing deliberations with active participation from the floor focused on four guided questions:

 What is the difference between climate change adaptation and disaster risk reduction?

- Adaptation and disaster risk reduction: two distinct communities?
- What are the arguments for stronger linkages?
- What is the way forward? How do we organize ourselves?

The linkages between climate change adaptation, disaster risk reduction and ecosystems are increasingly being recognized. It is generally understood that ecosystems help

MAIN POINTS

- The author outlines the main conclusions of a seminar on disaster risk reduction and climate change adaptation.
- She describes actions that the two communities can take to strengthen interactions between the

two sectors.

Improving communication with the general public on the need to reduce risk and vulnerability to natural hazards is the first urgent step in adapting to climate change.

reduce natural hazard risks, including those exacerbated by climate change. The discussion revolved around how much evidence there is around the world and if there is a need for more evidence on ecosystems protecting communities from climate change and natural disasters. Participants felt that it was important to consider and note that the pace of recovery of ecosystems is coupled with that of the local community and to address not only the linkages between disaster risk reduction and climate change adaptation but also climate change mitigation options.

For sustainable development, the importance of linkages between disaster risk reduction and climate change adaptation is paramount and was duly recognized during the discussion. Several issues were discussed. For example, 'business as usual' for ongoing development is no longer an option and early action needs to be taken with vulnerability addressed in public policy strategies. In that regard, linkages to food security and climate change mitigation were highlighted as ways towards sustainable development.

In some countries, there is evidence that certain types of development (for example, construction of roads) lead to increased vulnerability and potential disasters affecting the areas where the informal sector is concentrated (landslides and floods in Mexico

were cited). In many cases, urbanization is occurring too quickly, which, in the coastal zone, coupled with sea-level rise, can lead to more disasters. Irrespective of a country's developmental situation and process, most important for a country to strategize climate change adaptation and disaster risk reduction effectively is to have political stability, commitment from leaders and community participation - all governance issues.

Seminar participants discussed action that they could take in the context of their own work. While linkages between the sectors are established, a certain onus lies with the climate change adaptation and disaster risk reduction communities of practitioners.

Climate change adaptation practitioners can play a role in further enabling and facilitating policy dialogues between the climate adaptation community and policy

COMPLEMENTARITY BETWEEN CLIMATE CHANGE ADAPTATION AND DISASTER RISK REDUCTION, HIGHLIGHTING POTENTIAL SYNERGIES		
	Climate change adaptation	Disaster risk reduction
Attributes	Policy relevant Moving toward public policy choices, including at local level as disaster risk reduction Following the global funding mandate	Action based (also policy relevant) Community-focused (long history of experiences at community levels), also requiring national policies
Strengths	Can provide policy-envelope, including climate change scenario-based choices for development planning Can provide local and national government with problem statements toward modalities and planning of economic development	Can maintain communities' commitment to adapt short-term coping practices through existing resources Also needs national policy development and integration into sectoral policies
Weaknesses	Downscaled data on projected climate change and its impacts at community levels are uncertain	Cannot rely on private funding or overseas development assistance The mechanism of securing public budget funding is not in place for disaster risk reduction at community levels
Challenges	Bringing long-term adaptation planning into communities - communities' responses are most often short-term and protect immediate needs	Mainstreaming disaster risk reduction into development planning at the national level Disaster risk reduction is mainly to be mainstreamed into climate change adaptation as a first priority in order to facilitate adaptation in all other sectors (agriculture, health, water, coastal zone management, and so on)

processes related to the Hyogo Framework for Action (HFA). They can support analysis and interpretation of risk issues in nonenvironmental government departments (in all sectors, as all are exposed to natural hazards and, if vulnerable, these can lead to disasters). It is also important that they share concrete examples and case studies of adaptation initiatives with disaster risk reduction colleagues, using more narratives and examples and avoiding conceptual jargon. Finally, adaptation practitioners can facilitate co-financing between adaptation and disaster risk reduction projects and conduct economic valuation of adaptation impacts in particular countries and sectors, sharing information with disaster risk reduction practitioners.

Likewise, disaster risk reduction practitioners can conduct more scenario planning exercises, looking forward rather than applying a planning envelope that is based on historic hazard occurrences. They can support analysis and interpretations of risks in non-disaster management government departments, promote a multi-hazard approach rather than single-hazard to early warning systems (these need to be hazardspecific but they can be developed, policywise, as a disaster risk reduction component within a multi-hazard approach) and support systematic management and analysis of hydro-meteorological data. Disaster risk reduction practitioners need to get acquainted and understand better climate change and its potential impacts (for example, as climate change increases the intensity and frequency of hazards happening in the same areas as today or creates hazards happening in areas where they didn't happen before). Most importantly, they need to appreciate the potential impact of new hazards such as the melting of glaciers, glacial lake outbreak floods and impacts related to sea-level and ocean temperature rise. They should be aware of the Special Report on Managing Risk of Extreme Events by the Intergovernmental Panel on Climate Change, to be finalized in 2011.

Seminar participants also considered the way forward. Information needs and availability and communications issues proved a major theme.

It was concluded that the challenges of data availability must not be considered an obstacle to addressing the needs of climate risk management. The fact remains, however, that there are information gaps. It is important to acknowledge the inherent uncertainties within the data and models while communicating information on risks or decisions that lead to planning and policies. An adequate approach would be needed to overcome the lack of data and this will have bearing on uncertainty trade-offs while simultaneously continuing to implement actions to strengthen the resilience of local communities and reduce vulnerabilities.

Strategies for climate change adaptation cannot be achieved without understanding



House demolished by mud slide during tropical storm, Gonaïves, Haiti, 2008

Photo: © EC/ECHO/Raphaël Brigandi

today's risks, traditionally available in the form of disaster risk reduction for which Disaster Risk Management is the main tool. While addressing disaster risk reduction, there exists a clear gap in methods and guidelines for relevant and appropriate probabilistic risk assessment as baseline elements that eventually form a basis to climate risk management and adaptation. Seminar participants recognized that today's experiences of adaptation are limited to good coping measures rather than full and comprehensive adaptation strategies. Therefore, an entry point with methods and guidelines may work well in providing both technical and technological need assessment across climate-sensitive sectors. Not only coping but also long-term adjustments are necessary: short-term coping is needed but it is essential to do it with a long-term perspective.

Climate change adaptation/disaster risk reduction stakeholder mapping is recommended to generate an inventory of key players, initiatives, products, and so on. This will help organize the climate change adaptation and disaster risk reduction communities. Common strategies and plans need to be developed at all levels (national and local) for addressing climate change adaptation with clear risk reduction approaches in all sectors.

Even when information on future climate risks is available, the challenge lies in how to unpack the information, how information can be interpreted for decision-makers and how to improve communication strategies to convince decision-makers to conduct longterm planning and boost understanding of climate change adaptation through strategic communication for its effective use and applications at various levels.

Climate change is not only a risk for communities but also an opportunity to engage investors. For example, it provides an opportunity for the private sector to be innovative and build the market for new demand (emerging out of climatic changes across the sectors) beyond Corporate Social Responsibilities, not only to build the clientele but also to meet the demand by making it affordable.

It was considered essential to improve communication with the general public by making abstract terminologies concrete and creating common messages and enhancing understanding. Decision making and policy making should be understandable and transparent to the people for whom it is made. The media, with adequate information and training, can play a crucial role in disseminating climate change adaptation information to a wider audience.

Improving communication strategies to interpret data and information for decision makers to conduct long-term planning and knowledge-based solutions is an urgent call, as is ensuring local governments enhance their understanding of climate change adaptation and disaster risk reduction through strategic communications. Nevertheless, the need to improve communication with the general public on the need to reduce risk and vulnerability to natural hazards is the first urgent step in adapting to climate change.

The Regional Climate Change Adaptation Knowledge Platform for Asia will play a significant role in promoting institutional mechanisms to support decision-making processes for managing risks at all levels (Hyogo Framework for Action priority one). It will facilitate in conducting climate change adaptation stakeholder mapping and engage Corporate Social Responsibility agencies and the media to get the right messages across to relevant stakeholders.

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FURTHER INFORMATION

• In the Cyberlibrary: The Tiempo Climate Cyberlibrary lists selected websites covering disasters and climate change at www. tiempocyberclimate.org/portal/disasters. htm.

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Remembering minorities

James S Pender argues that minorities warrant greater consideration in local, national and international responses to the climate threat

nitially, action on climate change, in its focus on its global impacts, tended to overlook detail at a local level. Therefore, a working assumption that all communities and those within them would be impacted by climate change in somewhat similar ways was pursued; so it could be said that initial initiatives tended to be both genderblind and age-blind. Encouragingly, in the last couple of years much has been written in terms of focusing on the specific needs of women and to a lesser extent on the specific needs of children, with more comprehensive approaches to meeting the particular needs of men, women and children being implemented in community adaptation projects.

Very little has, however, yet been written on the impacts of climate change on minorities, be they religious, ethnic, linguistic or caste, so perhaps the adaptation community could still be termed 'colour-blind' in its approaches. This is despite the recognition in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change that: "Impacts of climate change are likely to be felt most acutely not only by the poor, but also by certain segments of the population, such as the elderly, the very young, the powerless, indigenous peoples, and recent immigrants, particularly if they are linguistically isolated." Minority Rights Group Inter-

MAIN POINTS

- The author argues that minorities have been neglected in the response to climate change.
- There is a need to desegregate data where necessary to ensure involvement in adaptation projects. and disaster management plans also need

to consider the needs of minorities and build inter-community harmony or make separate provision.

 Adequate representation in both national and international processes planning adaptation and mitigation initiatives is essential.

national reports that, during flooding in the Slovakian community of Jarovnice in June 1998, following Hurricane Katrina in New Orleans in 2005, and in Bihar, India, in August 2007, minorities, namely Roma, African-Americans and Dalits, respectively, suffered disproportionately.

In terms of the impact of climate change, few places in the world will experience the range of effects and the severity of changes that will occur in Bangladesh. Potential changes include: average weather temperatures rising; more extreme hot and cold spells; rainfall being less when it is most needed for agriculture, yet more in the monsoon when it already causes floods; melting of glaciers in the source areas of Bangladesh's rivers altering the hydrological cycle; more powerful tornados and cyclones; and sealevel rise displacing communities, turning freshwater saline and facilitating more powerful storm surges.

Bangladesh is relatively racially and religiously homogenous, with around 85 per cent of its population being both Muslim and ethnically Bengali. Religious minorities include 12 per cent Hindus, many of whom are Dalits and considered "untouchables" (even by non-Hindus), with the remaining three per cent including Christians, Buddhists, and Animists (following traditional nature-worshipping religions). Many members of these minority religious groups are also members of minority ethnic groups making them "double" minorities. In addition, there are at least 27 ethnic groups making up around one per cent of the population and up to 47 language groups in Bangladesh. So while the percentage of minority populations is rather low, the number of minority groups and sub-groups is very large, while ethnic minorities alone number over a million people.

Perhaps because Bangladesh's minority communities are so fragmented, it makes them particularly vulnerable to discrimination and negative socio-religious prejudice, for in very few places are they in a majority and they are widely misunderstood by the Muslim Bengali community. Being minorities that are often despised by many in the majority community, these smaller communities are already considerably disadvantaged by many social development criteria. For example, only half of language minority children are enrolled in school with around 60 per cent of those dropping-out later. Eighty-five per cent of indigenous ethnic minorities in north-west



Discussing change in climate at a Pahari village Photo: © James S Pender

Bangladesh are landless and 100,000 indigenous people from the Chittagong hill tribes were forced off their land to make way for settlers from the majority community.

World Bank Group President Robert B Zoellick put it well, while opening a roundtable discussion on Indigenous Peoples and Climate Change in the United States in November 2009, when he said that indigenous peoples carry a "disproportionate share of the burden of climate change effects, as climate change exacerbates the difficulties that indigenous communities already face - including loss of land and resources, lower human development indicators, discrimination,

unemployment, and economic and political marginalization."

In Bangladesh, a large proportion of indigenous people are economically vulnerable, working as day-labourers, subsistence farmers or hunter-gatherers, living in poor quality housing with few assets. The majority of these ethnic minorities are additionally located in areas highly vulnerable to the effects of climate change: Rajshahi Division in the north-west vulnerable to drought; Svlhet in the north-east and the Chittagong Hill Tracts vulnerable to flash flooding; and on the southern and south-western coasts vulnerable to cyclones, storm surges and coastal erosion.

Sea-level rise and loss of coastal land, both physically and due to salinization, raises further threats. Will it lead to those displaced from the majority community in turn forcing minorities off their lands? This may especially be the case in an area perceived to be empty area such as the Chittagong Hill Tracts (although cultivable land there is limited). Resettlement will be even more of a challenge for the large numbers of Hindus and Buddhists that reside in the coastal zone due to prejudices.

What can be done?

First, there is a need to consider the needs of minorities and desegregate data where necessary to ensure their involvement in adaptation projects. Their needs may be different in many areas due to varying cultural tural practices, natural resource usage and



Santal man

Photo: @ James S Pender

remote locations. For example, in the Barind Tract, indigenous communities such as Santals and Paharis were formerly much more reliant on wild animals, plants and birds for food than the agriculturalist Bengalis. Due to a more arid environment, as well as the loss of common land to settler farmers, these food sources have dramatically reduced with a huge impact on nutrition for these minorities. The identification and cultivation of 'wild' plants, formerly harvested from fallow/common land, in household kitchen gardens is one such approach that the Church of Bangladesh Social Development Programme, with the support of the Department of Botany of Rajshahi University, is developing.

Second, disaster management plans also need to consider the needs of minorities and either build inter-community harmony or make separate provision. For example, in the Sundarbans, members of the Munda community were not welcome in cyclone shelters as they are considered 'untouchable' by the majority community. They were ignored by mainstream relief efforts following Cyclone Sidr due to their small and remote villages in the forest

Third, minorities need adequate representation in both national and international processes that are planning adaptation and mitigation initiatives, such as in country-level plans like National Adaptation Programmes of Action or in the climate treaty negotiations where until now they have been largely sidelined. It is essential that minorities should be assisted in becoming part of local, regional and national planning on adaptation or mitigation. If they cannot participate in the decisions that will affect the outcomes of global warming, then the chances are that their needs will be ignored.

Fourth, on a positive note, to quote Robert B Zoellick again, "indigenous communities, with their long experience in managing natural resources, and adapting to natural changes in the climate can also add to our knowledge and understanding of how best to cope with the complex challenge of human caused climate change. Learning from Indigenous Peoples will make our discussions richer and our actions more productive in respect to climate change adaptation and mitigation."

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FURTHER INFORMATION

- In the Cyberlibrary: The Tiempo Climate Cyberlibrary lists selected websites covering climate change and Bangladesh at www.tiempocyberclimate. org/portal/bangladesh.htm and indigenous peoples at www.tiempocyberclimate.org/ portal/indigenous.htm.
- On the Web: A report, Climate Change, its Impacts and Possible Community Based Responses in Bangladesh, by the author, is available at tinyurl.com/457mxp9.

Sidr - what have we learnt?

Md Nadiruzzaman argues that we need to learn more from past experience of natural hazards if we are to deal effectively with these events in the future

angladesh has been subjected to frequent natural disasters in many forms, particularly cyclonic storms and tidal surges. From 1797 to 1998, 67 major cyclone storms and tidal surges have been reported, indicating that Bangladesh is prone to a major cyclone on average every three years. The nation experiences 53 per cent of the world deaths from tropical cyclones. The 1970 Bhola cyclone, which killed 500,000 people, has been the single deadliest event so far. From known history, there are eight records of sixfigure death tolls from cyclones and tidal surges and five of them occurred in Bangladesh.

Cyclone Sidr struck Bangladesh on November 15th 2007 and caused severe devastation and loss of life. Sidr left 3500 dead and thousands missing. Two million people were displaced and 1.2 million homes were damaged. Sidr was the most powerful cyclone to affect Bangladesh since a storm of similar strength on April 29th 1991 killed 138,000 people on the Chittagong coast.

On the morning following Sidr's devastation, Mr Alamgir, who lives in the village of Royenda in the local growth centre in Gabtola in southern Bangladesh, set off on foot at dawn to his village and arrived at dusk. Though it was just ten miles away, the main obstructions on the roads were uprooted trees. This was the same problem that

MAIN POINTS

- The author considers the impact of Cyclone Sidr, which made landfall on the Bangladesh coast in November 2007.
- Despite evidence that the effects were exacerbated by certain development
- projects, similar mistakes are still being made.
- There is a pressing need to learn from experience of past events in order to cope more effectively in the future.



Flooding two miles from the Baleshwar River after the tidal surge created by cyclone Aila on May 25th 2009

Photo: © Md Nadiruzzaman

dissuaded many people from leaving their homes to take refuge at their nearest cyclone shelter. A number were killed by falling trees and flying debris. It is really a great wonder for me that, while the whole world is campaigning for a greener world, this became an irony at Gabtola, the area most affected by Sidr as it tracked along the Baleshwar River.

Interestingly, most of the uprooted plants were not local species. They were imported from different parts of Bangladesh more than two decades ago as a part of a social forestry programme. Linked with a poverty alleviation programme, the programme strove to inspire peasants nationwide to plant timber trees like chamble, mahogany, shirish, rain tree, and so on, so that the peasants can have petty cash by selling mature timber.

Several small and medium entrepreneurs responded to this campaign, which gave rise to a significant number of plant nurseries all over the country. These nurseries tried to maximize their profit by increasing their productivity in a limited space. This led them to cut the main root of the growing plants so that they could be grown on compost in a small plastic container. There was also a demand by farmers to have the plants at and above a certain height so that their cattle could not reach the top of those plants. However, while these plants grew bigger, their roots expanded only horizontally in loose alluvial soil because of this severing of the tap root at a very early stage. It was these plants that were unable to withstand high velocity winds and they became deadly airborne missiles in the high winds of Cyclone Sidr.

After Sidr, there was direct and indirect support from many international non-governmental organizations (NGOs) and donor agencies. Despite knowledge of the potential risks of growing plants without roots, the same quality of plants was distributed to the victims

By way of explanation, the NGOs blamed their donors for allocating insufficient money to buy appropriate plants. But in my conversations with donors, they claimed a very good cooperation with their partners, especially in regard to funds. The government runs a monitoring device by empowering local government executives to authorize and approve any development project, but they remain silent as retired former bosses,



A tree with its main root intact survived the storm (left) while another fell down (right)

Photo: © Md Nadiruzzaman



House of landless people on the Baleshwar River embankment

Photo: © Md Nadiruzzaman

who are likely to have very good connections with the high-rank government executives, have joined the NGOs as consultants. Thus, the issues remain unaddressed.

Over the past couple of decades, natural hazard events have increased dramatically and, in 2004-5, climate-induced casualties have increased by 18 per cent over the world as a whole. Statistical, satellite and observa-

tional data suggest that both the intensity and magnitude of storms will increase in the future. There are several issues like our engineered plants that need to be understood and addressed. Otherwise, what we have learnt from our lived experiences will have no use.

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FURTHER INFORMATION

● In the Cyberlibrary: The Tiempo Climate Cyberlibrary lists selected websites on climate change and Bangladesh at www. tiempocyberclimate.org/portal/bangladesh. htm and on climate change and disasters at www.tiempocyberclimate.org/portal/disasters.htm.

Adaptation set in motion

SUMMIT AGREEMENT

Sven Harmeling argues that, as far as adaptation is concerned, the Cancún Climate Summit was a small step in the right direction.

The Cancún Climate Summit resulted in the adoption of a comprehensive set of decisions addressing many aspects of the climate debate. It must be seen as a milestone on a long journey that will continue to be hard and dusty. Amongst other outcomes, the Cancún Adaptation Framework was adopted. This agreement marks an important intermediate step in the adaptation negotiations, which started in Bali in 2007 and which during the Copenhagen Climate Summit progressed more than many other building blocks of the United Nations Framework Convention on Climate Change (UNFCCC) negotiations.

The Cancún Adaptation Framework covers a range of aspects, from principles guiding adaptation action to a list of activities which countries can undertake under this umbrella, from the need to strengthen regional cooperation to the invitation to multiple stakeholders to contribute to the implementation of the framework. During the negotiations in Cancún, it was mostly those issues with a concrete operational relevance that were most controversial and absorbed most of the adaptation negotiating time. At the end, negotiators arrived at some conclusions that can have impact on the ground.

For Least Developed Countries (LDCs), it was decided to establish a process which assists them in their national adaptation planning efforts, for example, if they want to develop national adaptation plans or comprehensive climate change strategies. Building on the experience of the National Adaptation Programmes of Action (NAPAs), the UNFCCC will support through the preparation of guidelines and the facilitation of exchange of experience.

An Adaptation Committee was established to promote coherence on adaptation under the Convention. There was a long struggle between developed and developing countries on the functions that should be pursued as well as on the question, whether such a committee would be the right approach to perform these functions. Only when negotiations went to the ministers' level could agreement be reached.

The need to address loss and damage - those impacts that remain unaddressed despite best mitigation and adaptation efforts - was highly controversial. The Alliance of Small Island States (AOSIS) has promoted an international mechanism to address loss and damage from extreme as well as from slow-onset events, such as sealevel rise. The mechanism was supposed to include insurance approaches as well as aspects of compensation and rehabilitation. In the end. Parties agreed to elaborate a work programme on several issues connected to loss and damage, which, although less than demanded by AOSIS, must be seen as a decision in favour of the most vulnerable countries. The issue will be kept on the political agenda, even if it is only a first step towards actions for this problem.

A key problem was solved which for long has hindered serious action on adaptation under the Convention, the issue of adaptation to the so-called response measures. This refers to adaptation to the adverse effects of emission mitigation actions, when, for



Thousands of demonstrators marched in Cancún to ask negotiators to achieve a fair deal against climate change Photo: @ Ainhoa Goma/Oxfam

example, Organization of the Petroleum Exporting Countries perceive loss in revenues because developed countries reduce their oil consumption as a result of their climate policies. Unfortunately, the Convention connects both aspects - adaptation to climate change impacts and to response measures - in one article. As always when there was the attempt to scale-up action on adaptation, Saudi Arabia and other oil producers demanded to benefit from adaptation actions as well. Clearly, it is immoral to put the losses

from the reduction in harmful activities on an equal footing with the impacts of climate change on the most vulnerable who largely bare no responsibility for the problem in the first place. The Copenhagen Accord failed in separating response measures from adaptation to climate impacts. Cancún, however, achieved the outcome that response measures are dealt within the mitigation section, and not as part of adaptation.

Partially, the decisions in Cancún already shape the debates for the next climate summit, the 17th Conference of the Parties to the climate treaty in December 2011 in Durban, South Africa. For example, the modalities for the Adaptation Committee as well as the LDC support process will have to be worked out during 2011, with a view to agree on operationalization in Durban. With regard to the work programme on loss and damage, it was agreed that Parties and relevant organizations can make submissions by February 21st to the UNECCC Secretariat on the elements to be included in the work programme, which will end at the 18th Conference of the Parties in 2012.

Of course, in the end, all this will not be sufficient to save vulnerable countries and people if it is not underpinned by strong financial support from developed countries, and if the world's largest emitters, in particular, developed countries, do not step up their mitigation ambition. In both regards, the Cancún Climate Summit was only a small step forward, but a step in the right direction nevertheless.

• Further information: Germanwatch has published a briefing paper on the adaptation negotiations at www.germanwatch. org/klima/ad-cph-canc.htm. The author can be contacted at Germanwatch eV. Büro Bonn Dr Werner-Schuster-Haus Kaiserstr 201, D-53113 Bonn, Germany. Fax: +49-228-6049219. Email: harmeling@germanwatch.org. Web: www.germanwatch.org.

CONFERENCES

5th International Conference on Community-Based Adaptation to Climate Change

Dhaka, Bangladesh: 24-03-2011 to 31-03-2011

Conference aims to share the latest developments in adaptation planning and practices, priority sectors and measures at different levels and dissemination of knowledge among stakeholders and communities. Includes three days of field visits. Details: Bangladesh Centre for Advanced Studies, House 10, Road 16A. Gulshan-1, Dhaka 1212, Bangladesh, Fax: +880-2-8851417

Email: ccadaptationworkshop@bcas. net

Web: www.bcas.net

Greenhouse 2011

Cairns. Australia: 04-04-2011 to 08-04-2011

Conference is the latest in a series organized by CSIRO. Aimed at scientists and representatives from industry and government involved in the research and application of climate change science. Main topics for discussion include: Pacific nations and climate change; atmosphere; climate variability: impacts and adaptation: oceans: biodiversity: and communicating climate change.

Details: Greenhouse 2011 Secretariat. CSIRO, PMB 1 Aspendale, Victoria 3195. Australia.

Fax: +61-3-92394444 Email: paul.holper@csiro.au Web: www.greenhouse2011.com

11th International Coastal Symposium

Szczecin. Poland: 09-05-2011 to 14-05-2011

Organized by the Coastal Education and Research Foundation, the conference also marks the 20th Anniversary of the Institute of Marine and Coastal Sciences at the University of Szczecin. Conference themes will include: beach processes: barrier islands: coastal ecosystems: climate change: coastal geomorphology: impact of extreme storms; human imnacts; and coastal dunes. Details: ICS2011 Conference, Zaklad Teledetekcji i Kartografii Morskiej, Uniwersytet Szczecinski, ul Mickiewicza 18/402, 70-383 Szczecin, Poland. Fax: +48-914-442451

Email: ics@ics2011.pl Web: www.ics2011.pl

World Environmental & Water Resources Congress Palm Springs, USA:

22-05-2011 to 26-05-2011

Co-organized by the Environmental and Water Resources Institute, Will include plenary sessions, technical presentations (focusing on Bearing Knowledge for Sustainability) and various symposia. Session topics will include: urban water resources; watershed management; water and wastewater engineering; and international projects. Symposia to cover arid lands, climate change and sustainability.

Details: American Society of Civil Engi-

neering (ASCE), 1801 Alexander Bell Drive, Reston, VA 20191-4400, USA. Fax: +1-703-2956333

Email: info@asce.org

Web: www.content.asce.org/ conferences.ewri2011lindex.html

International Transport Forum 2011: Transport & Society

Leipzig, Germany: 25-05-2011 to 27-05-2011

It is intended that participants will be represented by decion makers from around the globe from politics, civil society, business and other interested parties. Focus for discussion is the role that transport will play in future society.

Details: 2011 Transport Forum Organizer, OECD, 2 rue Andre Pascal, 75775 Paris. Cedex 16, France.

Fax: +33-1-45248500 Email: itf.contact@oecd.org Web: www.internationaltransportforum. org/2011/index.html

Fourth United Nations Conference on the Least Developed Countries Istanbul, Turkev:

30-05-2011 to 03-06-2011

Main purpose of the conference is to assess the results of the 10-year action plan for the Least Developed Countries which was adopted at the 3rd UN Conference on LDCs in Belgium in 2001. Participants will also adopt new measures and strategies for the sustainable development of the LDCs into the next decade. Open to all stakeholders, governments, inter-

national organizations, civil society organizations and the private sector. Details: Ricardo Dunn, LDC's Conference Organizer, One United Nations Plaza, New York, NY 10017, USA, Email: dunn@un.org Web: www.un.oralwcmlcontentlsitel

ldclhome

2nd International Exergy, Life Cycle Assessment & Sustainability Workshop & Symposium

Nisvros. Greece: 19-06-2011 to 21-06-2011

Workshop and symposium are organized under the European Cooperation in Science and Technology (COST). COST Action C24 (COSTeXergy) and UNEP/SETAC Life Cycle Initiative. Four main themes are exergy analysis and exergoeconomics, life cycle assessment, energy and environment, and sustainable development. Details: Christopher Koroneos, Laboratory of Heat Transfer and Environmental Engineering (LHTEE), Aristotle University of Thessaloniki, Box 483. 54124 Thessaloniki, Greece Fax: +30-2310-996012 Email: koroneos@aix.meng.auth.gr

Web: www.elcasnet.com

Progress in Cancún

SUMMIT

The Cancún climate summit proved an unexpected success, though critical issues remain unresolved. Tiempo editors Sarah Granich and Mick Kelly report on the lead-up to the summit and its outcome.

As the final negotiations before the Cancún climate summit took place in Tianjin, China, during October 2010, Christiana Figueres, executive secretary of the United Nations Framework Convention on Climate Change, urged Parties to the climate treaty to "move beyond their national interests in pursuit of a common good." The aim would be to focus on manageable aspects of the climate negotiations at the December summit, with contentious issues to be resolved at a later date.

Tension between China and the United States threatened to overshadow the Tianjin talks, with China warning that there would be no compromise on the interests of developing countries. "We are losing trust and confidence," said foreign ministry representative Huang Huikang. The Chinese response was

triggered by comments by Jonathan Pershing, United States deputy special envoy on climate change, who said that the United States was disappointed with the pace of the negotiations and might pursue an alternative to the United Nations process. Pershing also accused some countries of attempting to "relitigate" agreements embodied in the Copenhagen Accord. "A developed country I won't name hasn't done a job for itself," said Xie Zhenhua, China's head negotiator. "It has not provided financing or technology to other countries, yet it asks them to accept stringent monitoring and voluntary domestic actions. It's totally outrageous. It's quite unacceptable," he continued.

As the Tianjin negotiations ended, Figueres was pleased that participants had come closer to defining what could be achieved at the forthcoming summit in Cancún. "This week has got us closer to a structured set of decisions that can be agreed in Cancún. Governments addressed what is do-able in Cancún. and what may have to be left to later," she said. Action that could be agreed at the summit was about turning "small climate keys that unlock very big doors," generating a new level of climate action among rich and poor, business and consumers, governments and citizens, "If climate financing and technology transfer make it possible to give thousands of villages efficient solar cookers and lights, not only do a nation's entire carbon emissions drop, but children grow healthier, women work easier and families can talk. read and write into the evening," she said. This is about real people being given the opportunity to take control of their future stability, security and sustainability, she added.

Prospects for Cancún were eroded with Republican gains in the mid-term elections in the United States undermining plans for a domestic cap and trade approach to mitigation and hence participation in international efforts. Nevertheless, the European Union, planning to cut carbon emissions to 20 per cent below 1990 levels over the next ten years and considering further action, held to its position. "The goal for Cancún remains a balanced set of decisions which keep up the momentum toward an international framework to keep global temperature increase below two degrees Celsius," said José Manuel Barroso, president of the European Commission.

In November 2010, fifteen countries, meeting at the Tarawa Climate Change Conference in Kiribati, signed the Ambo Declaration. The Declaration calls for decisions on an "urgent package" for concrete and immediate implementation to be agreed to at the Cancún climate summit to assist those in most vulnerable states on the frontline to respond to the challenges posed by the climate crisis. The aim of the meeting was to hold a consultative forum between vulnerable states and their partners, creating an enabling environment for multi-party negotiations under the auspices of the climate treaty. Colonel Samuela Saumatua, Fijian environment minister, said that the location of the meeting was ideal for dialogue. "The spirit of discussion was very helpful, very Pacific," he said. "It's a far



Cancún - Mexican farmers' sand sculpture

Photo: © Oxfam International

cry from Copenhagen, and here people suggested things, instead of saving you can't have that, they said it may be better to look at it this way. So that's the spirit of things." The Declaration was signed by Australia, Brazil, Canada, China, Cuba, Fiji, Japan, Kiribati, Maldives, Marshall Islands, New Zealand, Solomon Islands and Tonga, Kiribati president Anote Tong reported that he was disappointed that the United States and the United Kingdom opted out of the declaration by taking up observer status.

Small Island States announced that they want an end-2011 deadline for a new climate agreement. "In the case of climate, emergency requires speed," said Dessima Williams of the Alliance of Small Island States, "Anything that is not concluded in Cancún should not be put off into the indefinite future but could easily and should be referenced to South Africa [the 2011 climate summit]," she argued.

As the summit approached, Figueres remained confident of a positive outcome. "Everything I see tells me that there is a deal to be done," she said. What might emerge is a set of interlocking agreements. "Countries have actually learned for themselves... that there is no such thing as one all-encompassing solution," Figueres said. "They also seem to be setting out to develop the building blocks upon which they can build realistic action on the ground, because countries really need results on the ground right now. And I don't see them veering away from that in any sudden way."

"Climate change is an issue that affects life on a planetary scale," said Mexican president Felipe Calderón as the Cancún climate summit got underway. "What this means is that you will not be here alone negotiating in Cancún. By your side, there will be billions of human beings, expecting you to work for all of humanity," he continued. Around 15,000 people participated in the summit.

Japan created widespread consternation in the summit's opening days when it announced that it would not support extension of the Kvoto Protocol from 2012. Environment minister Ryu Matsumoto described the treaty as "outdated" as it only covered nations responsible for 27 per cent of world emissions. Japan wants a global treaty. "It does not make sense to set the second commitment period under the Kyoto Protocol as the current Kyoto Protocol is imposing obligation on only a small part of developed countries," said Japanese negotiator Hideki Minamikawa, "With this position, Japan isolates itself from the rest of the world. Even worse, this step undermines the ongoing talks and is a serious threat to the progress needed here in Cancún," said Yuri Onodera of Friends of the Earth Japan. Developing nations see progress on the future of the Kyoto Protocol as a prerequisite for a broader global agreement.

The atmosphere during the negotiations was, in the main, far more constructive than at the previous summit. "There is more camaraderie than I saw in Copenhagen, more



Cancún - indigenous peoples' caucus

Photo: © Oxfam International

dialogue and much more intense engagement between the United States and China, and less shadow boxing," commented Indian environment minister Jairam Ramesh.

After over-running on the final day, the talks ended with two major agreements. The developed nations, recognizing their historic responsibility, "must take the lead in combating climate change and the adverse effects thereof," states the agreement on long-term cooperative action. Developing countries, for their part, will take "nationally appropriate mitigation actions in the context of sustainable development," subject to adequate financial and technical support. A compromise agreement was reached on an international inspection regime for these nations, a development that China had opposed. Under the second agreement, the Kyoto Protocol will continue beyond 2012, though critical

details, such as national emissions targets, have still to be negotiated and there must remain doubt regarding the future of the Protocol. The overarching goal of the two agreements is to hold the increase in global average temperature to below two degrees Celsius above pre-industrial levels. This goal will be reviewed after five years and the need to restrict the temperature rise to 1.5 degrees Celsius will be considered.

Two decades on, adaptation is at long last given equal weight with mitigation in the international response to the threat of climate change. The wide-ranging Cancún Adaptation Framework covers: planning and implementing adaptation actions; impact, vulnerability and adaptation assessment; strengthening institutional capacities; building social and ecological resilience; enhancing disaster risk reduction strategies; measures regarding climate change-induced displacement, migration and planned relocation; development and transfer of technologies, practices and processes and capacity building; strengthening data, information and knowledge systems, education and public awareness; and improving climate-related research and systematic observation. A process will be established that enables least developed country nations to formulate and implement national adaptation plans.

The Green Climate Fund will provide "scaled-up, new and additional, predictable and adequate funding" for developing country activities and will be run by developing and developed countries, resolving contention regarding the role of the World Bank. Support will rise to a goal of US\$100 billion a year in 2020. Agreement has also been reached on finance to support developing countries limit emissions by forest protection.

In his closing address, Mexican president Felipe Calderón declared the conference a success, saying that the agreements "altered the inertia and have changed the feeling of collective powerlessness for hope in multilateralism" that had settled over recent negotiations. The role of executive secretary Figueres, in pushing through the two agreements was highly commended. She was described as a "goddess" by Ramesh.

Reaction to the twin agreements reached at the Cancún summit was generally positive. "We have strengthened the international climate regime with new institutions and new funds," said European Union climate commissioner Connie Hedegaard, "Market participants didn't really expect much and what we saw was a clear political commitment." said Martin Schulte, a director at First Climate. "We've got out of the complete standstill," he concluded.

Jake Schmidt of the Natural Resources Defense Council in the United States, citing progress on emissions reductions, greater transparency, forest preservation and the creation of the green fund, described the agreements as a detailed set of visionary, yet pragmatic principles that provide a solid foundation from which to build upon, "The Cancún Agreements, combined with the efforts of millions of people around the world working at the personal, local, state and regional levels to deal with this problem, signify real progress," he said. There was a very positive response to the possibility that China will accept a degree of international verification of its emissions control. "It's a huge step in the right direction," said Fred Boltz of Conservation International.

Saleemul Hug from the International Institute for Environment and Development, a Tiempo editor, commented that "we're on a very good start" with the Green Climate Fund. "The two things that we did achieve in Cancún, against expectations somewhat in fact, we now have the new climate fund and countries have started pledging," he explained.

Agreement on Reducing Emissions from Deforestation and Forest Degradation (REDD) was a major outcome of the meeting, Greenpeace spokesman Steve Campbell said that the REDD mechanism could be a major step forward for forests, though "the devil is really going to be in the detail." He was pleased that forests will not be included in carbon markets. Ben Powless from the Indigenous Peoples' Forum on Climate Change welcomed the forest agreement but warned that the language on safeguarding indigenous peoples' rights was weak. "That still maintains the possibility to privatize a large part of our natural resources, our lands and territories. And really the ones who would suffer from that would be indigenous communities as well as biodiversity," he said.

There were reservations regarding the lack of any concrete mitigation commitments in the Cancún agreements, with no global emissions reduction target for 2050, no target for a peaking year and no firm emissions reduction targets for developed countries. As Sunita Narain from the Centre for Science and Environment in India commented, "the move is to replace the [existing] regime with voluntary targets for all." This issue looks set to dominate negotiations leading to the 2011 summit in South Africa.

In a letter sent to the Mexican president Mohamed Nasheed, president of the Maldives, pledged his country's backing for the Cancún Agreements and congratulated Calderón for his government's "remarkable achievement in successfully brokering the balanced package of decisions."

In the summit's aftermath, Figueres called for the rapid launch of the new institutions and funds covered by the agreements to confirm that a new era of international cooperation on climate change is an established fact. "Many millions of the poor and vulnerable people of the world have been waiting years to get the full level of assistance they need. Industrialized nations will soon have a clear. comprehensive structure into which they can direct the funding they have promised," she said. She asked all countries, particularly the industrialized nations, to deepen their emissions reductions commitments, "Cancún was a big step, bigger than many imagined might be possible. But the time has come for all of us to exceed our own expectations because nothing less will do."

Existing pledges and promises to control national emissions, if fully realized, could deliver around 60 per cent of the reductions needed to limit the rise in global temperature to two degrees Celsius over the 21st century, according to a recent report from the United Nations Environment Programme. This leaves, though, a large "gigatonne gap" still to be addressed.

• Further information: The Tiempo Climate Cyberlibrary provides weekly coverage of news at www.tiempocyberclimate.org/ newswatch/. For detailed discussion of all climate negotiating meetings, visit the Earth Negotiations Bulletin at www.iisd.ca/process/ climate atm.htm.

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Whose prize?

he Cancún summit has concluded and a deal has been gavelled into existence by the chair. Commentators and climate activists in the Western world are ecstatic. Even the critics say pragmatism has worked and the world has taken a small step ahead in

its battle to fight emissions that determine its growth.

Let's assess the outcome at Cancún to see if this is indeed a step forward. At the Bali climate conference in 2007, the target placed on the table was for the indus-

trialized countries to cut emissions 20-40 per cent by 2020, over their 1990 levels. The actual number was to be finalized at subsequent meetings. So what does Cancún do? It mouths some platitudes that the industrialised countries will scale up their mitigation efforts but does not specify a target.

Instead, it endorses an arrangement that emission reduction commitments of industrialized countries will be decided on the voluntary pledges they make. They will tell us how much they can cut and by when. The United States, which has been instrumental in getting the deal at Cancún, is the biggest winner. If its target to reduce emissions were based on its historical and current contribution to the problem, the country would

THE FINAL WORD

Sunita Narain argues

outcome favours only

that the Cancún

the rich

have to cut 40 per cent by 2020, over 1990 levels. Now it has pledged that it will cut zero percentage points in this period. The Cancún deal legitimizes its right to pollute.

This is not all. Under the Cancún deal, all countries, including India and China, are now committed to reduce emissions. If you compare the sum of the 'pledges' made by the industrialised countries against the 'pledges' made by developing countries, including China and India, a curious fact emerges. While the total amount the rich will cut comes to 0.8-1.8 billion tonnes of carbon dioxide equivalent, poor developing countries have agreed to

cut 2.3 billion tonnes by 2020. The principle of equity in burden-sharing has been completely done away with.

All previous drafts of this agreement stated that developing countries would have equitable access to the global carbon budget. This has been crucially diluted in the Cancún agreement. It reads in a fuzzy and meaningless way that there will be "equitable access to sustainable development." We have surrendered our demand to apportion the global atmospheric space based on our right to development.

The Western media is hailing Cancún as the much-needed breakthrough. That's because the Cancún deal protects the interests of the rich polluters. It is their prize.



Sunita Narain is director general of the Centre for Science and Environment in New Delhi and editor of *Down* To Farth.

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