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How to sound knowledgeable in Cancun

Selected articles on the humanitarian implications of climate change



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Foreword

The shadow of the global economic recession looms over Cancun, Mexico, where signatories to the UN Framework Convention on Climate Change (UNFCCC) will meet for the 16th time from 29 November.

Almost every climate deal hinges on money, and the economic slowdown is likely to have a bearing on the discussions related to adaptation, mitigation or technology transfer. But maybe some goodwill - and the instinctive need for self-preservation - will prevail.

The UN Secretary-General Ban Ki-moon set up a High-level Advisory Group on Climate Change Financing to identify "new, innovative and additional sources" for long-term financing to support adaptation and mitigation activities in developing countries. The group reported back recently that raising US$100 billion a year from 2020 from the private sector could be feasible through the carbon markets, fuel levies and carbon taxes while learning to spend public money prudently. But will that money be predictable?

Aid watchers say finance for short-term adaptation may start coming in now that the Adaptation Fund is operational. There might also be some new pledges in Cancun, and the spotlight will be on creating a new climate fund, also called the Green Fund, first mooted by Mexico.

IRIN has been following climate-change policy developments since the countries last met in Copenhagen, Denmark in 2009. In this collection of reports, we have attempted to provide a humanitarian guide, and bit more.

We will be in Cancun to keep you informed. So keep checking in on us!

Aid Policy

Adaptation from Copenhagen to Cancun



Learning to adapt
Photo: Contributor/IRIN

Johannesburg, 15 June 2010 (IRIN) - The world will probably not crack a comprehensive climate change treaty in Cancún, Mexico, in December 2010 but the forecast for a deal on how to help countries adapt to erratic weather patterns is partly sunny.

That was the prediction by most aid agencies and analysts following the adaptation track of the negotiations, but their forecasts came with the rider that finance for the adaptation package would have to be agreed. So, from Copenhagen to Bonn to Cancun, what is there to be hopeful about?

"There was emerging consensus on several [adaptation] issues" at the high-level talks held under the UN Framework Convention on Climate Change (UNFCCC) in Copenhagen in December 2009, said Sven Harmeling, senior advisor of Germanwatch, a North-South watchdog initiative, and Sandeep Chamling Rai, adaptation policy coordinator of the World Wide Fund (WWF) for Nature, in their paper, Adaptation from Copenhagen to Cancún.

Harmeling and Rai were upbeat because the Copenhagen adaptation text, as it stands, addresses some important elements: the process has to be "country-driven", "gender-sensitive" and "participatory", and will target the most vulnerable groups, communities and ecosystems.

Developing countries and NGOs have long raised questions about who decides which criteria allow countries to qualify for funds, who they ask to assess their adaptation needs, and turn to for technical assistance.

Harmeling and Rai said the current structure was "too fragmented" because these questions were addressed separately by different bodies and expert groups in the UNFCCC process. The adaptation text now includes three proposed solutions: an Adaptation Committee, an Advisory Board and a Subsidiary Body for Adaptation.

Sarah Wiggins of Tearfund, a development NGO, said most NGOs supported an Adaptation Committee, which would be a technical "rather than a political body to carry out key adaptation functions ... This could ensure a more coherent way forward on adaptation in the UNFCCC discussions." WWF's Rai said countries were trying to "flesh out the role and responsibilities of the adaptation committee" before they decided.

Managing the money

In the potholed road to agreement on climate change all countries acknowledge that adaptation is urgent, and this was backed up by the promise of developed countries at the Copenhagen talks to provide US$30 billion over the next three years to fast-track adaptation and mitigation efforts in developing countries.

The US is not party to the Kyoto Protocol - the treaty to reduce harmful greenhouse gas emissions, administered by the

UNFCCC - and so cannot contribute to the Adaptation Fund set up under the Protocol.

"It is another matter that the money has yet to materialize, and we don't how it will be channelled," said Saleemul Huq, head of the climate change group at the UK-based International Institute for Environment and International Development.

Harmeling and Rai also acknowledged that the promise of fast-track finance promised in Copenhagen, to be "allocated in a balanced manner between adaptation and mitigation" was "unprecedented and shows that adaptation is – at least verbally – recognised as being crucially important".

They noted that "Near-term adaptation funding is very urgent, since impacts are already unfolding and the world is already committed to significant climate change impacts from past emissions."

Huq said discussions following the adaptation track at the latest round of talks in Bonn, Germany, in June 2010, "were held in a friendly atmosphere", and he was optimistic that an agreement on "short-term" adaptation was feasible in Cancún, partly because the money for short-term adaptation was more likely to come through.

"Getting more money for adaptation and disaster risk reduction will 'hinge on countries being able to demonstrate that resources will be used wisely'"

Developing countries had something to cheer about in Bonn: they have long wanted the UN rather than the World Bank to handle adaptation funds, but the US has been reluctant to agree; now its stance has shifted.

"All signals suggest that the US, especially, has changed its tune and is now more willing to consider the possibility of management and secretarial functions of a new climate fund," which would report to the UNFCCC, said Antonio Hill, climate policy advisor to the development agency, Oxfam.

"This was definitely an issue where progress was seen in Bonn, and that can be built on to deliver something worthwhile in Cancun - even if bigger issues around finance sources and scale still have to be decided later on," he commented.

"More importantly, whatever new agreement is ultimately forged, it does need a new financial mechanism to rationalize the large and growing spaghetti bowl of funds," said Hill.

Insurance

The adaptation text also contains a proposal for setting up an insurance mechanism to help countries cope with intense natural disasters, such as droughts and cyclones, and another for addressing loss and damage resulting from climate change.

WWF's Rai said talks on the insurance mechanism were "moving quite okay" and Switzerland had organized a side event in Bonn to discuss this with other countries.

Compensation was trickier. Hill said any language linking climate change with loss and damage could imply an "admission of liability [on the part of the developed countries] for an unspecified and potentially unlimited set of losses".

A recommendation was made in Bonn to extend the Nairobi Work Programme - set up in 2005 under the UNFCCC in the talks on the scientific track of negotiations, for a five-year period - to help developing countries understand and assess the impact of climate change, and help them adapt.

"We support having such a body [Nairobi Work Programme] to look at the practical out workings of adaptation. It helps to address the gap in understanding between the scientists, and the communities in developing countries who are already being hit hard by climate change," said Tearfund's Wiggins, agreeing to the extension.

Getting the money

As usual, the entire adaptation package hinges on money. Developing countries and humanitarian aid agencies welcomed the short-term funding of $30 billion, with a long-term $100 billion a year by 2020, pledged in Copenhagen, but there has not been any clarity on how funding will be disbursed.

"The EU has announced that it would provide $7.6 billion of the short-term funding for the first year, but we don't know whether the money is new, and additional to the funds being provided as official assistance to developing countries," Huq pointed out. He and two other academics have called for a UN-based system to define baselines for counting funds and monitoring pledges and payments.

"This text will only be meaningful if the finance starts to flow in terms of fast-start finance and long-term finance, and both the sources and governance of long-term finance are agreed, so that new and additional predictable finance flows to the poorest and most vulnerable countries to enable them to adapt," said Tearfund's Wiggins.

Hill suggested that developing countries "Put in place national-level mechanisms ... to assess vulnerability, [and] manage and deliver resources ... to prevent the worst impact of growing climate hazards," because getting more money for adaptation and disaster risk reduction will "hinge on countries being able to demonstrate that resources will be used wisely."

Climate change and adaptation funding equally unpredictable



No one really knows how much money will be needed to help countries adapt to climate change
Photo: Jason Gutierrez/IRIN

JOHANNESBURG, 11 February 2010 (IRIN) - Money - as in every other sphere of life - has been a contentious aspect of global climate change. Are rich countries keeping their end of the bargain in helping poor countries adapt to increasingly erratic weather patterns? Are some poor countries exagerating financial needs or their ability to spend funds?

There are two main issues: the amount of external finance needed to help poor countries adapt, and how it should get to them. A stew of proposals has been simmering for years, but new promises at the last round of climate change talks in Copenhagen in December 2009 heated up the pot.

Developed countries put "new and additional resources" for adaptation and mitigation in the mix, including investments via international institutions amounting to US$30 billion from 2010 to 2012, and in the long term promised to "mobilize" $100 billion a year by 2020.

This raised a flurry of reactions from developing countries, academics, environmental aid activists and NGOs. "Where is the money going to come from?"; "How much of it is new and additional?"; "We need predictable funding"; "Any funds should be besides the ODA [Official Development Assistance]"; "There are too many sources of funds - how do we monitor them?"
Two recent papers have attempted to find answers: a discussion draft by the World Bank, Monitoring and Reporting on Financial Flows Related to

Climate Change; and a briefing paper, Copenhagen's climate finance promise: six key questions, by the UK-based International Institute for Environment and Development.

IRIN takes a closer look at some of the issues around adaptation funding.

Q: What are the sources of funding for adaptation?

A: Adaptation finance is being provided by a "spaghetti-bowl" of "bilateral and multilateral channels", as Oxfam, the UK-based development agency put it in its paper, Beyond Aid.

a) The UNFCCC has set up various funds: the Adaptation Fund, the Least Developed Countries Fund, and the Special Climate Change Fund. The Adaptation Fund is to be financed by a levy on the Clean Development Mechanism; the other two are multilateral funds managed by the Global Environment Facility, the UNFCCC's financial mechanism.

The Global Environment Facility allows industrialized countries to earn and trade emissions credits, called Certified Emission Reductions, by implementing projects either in developing countries or other developed countries, and then to put the credits towards meeting their targets for greenhouse gas emissions.

Other funds specifically for climate change are the Climate Investment Funds (CIF), a collaborative effort between multilateral development banks and developed countries to "bridge the financing and learning gap between present needs, and a global climate finance architecture (being currently negotiated under UNFCCC)", according to the World Bank paper.

"Current approaches have been built ad-hoc upon an inappropriate aid infrastructure. The result is opaque, underfunded, overly complex, and poorly coordinated"

All these funds are topped up on a voluntary basis. The contributions are counted as Official Development Assistance by the members of the Development Assistance Committee of the Organization for Economic Cooperation and Development (OECD), which includes all the major developed countries. The Development Assistance Committee is the principal OECD body dealing with co-operation with developing countries.

b) Other non-climate specific assistance by the Development Assistance Committee includes grants or concessional lending, such as technical assistance, budgetary support or help for climate-friendly projects, e.g., an insurance scheme covering climate variability.

c) Philanthropy: the World Bank report noted that foundations and private companies covered lot of ground in development finance, but the amount of money for climate change-related activities was unquantified.

Between 2000 and 2008 US foundations doubled their number of grants for climate change activities and increased their commitment from less than $100 million to nearly $900 million, according to the Foundation Centre, which maintains a database of all US grant-makers.

Q: How much money could or should be made available?

A: No one knows for sure. The UNFCCC has estimated that by 2030 poor countries would need between $28 billion and $59 billion a year to adapt; the World Bank thinks between $20 billion and $100 billion should do it; the European Union Commission put the amount between $10 billion and $24 billion a year by 2020, and the African Group of climate change negotiators arrived at a sum of more than $67 billion a year by then.

Although the amount of money flowing to developing countries for climate change-related projects and programmes is grow-

ing, it still covers less than five percent of the estimated funding required, said the World Bank report.

Until recently, many poor countries and think-tanks have looked to the UNFCCC's Adaptation Fund to provide most of the money. The World Bank feels that, depending on the performance and price of Clean Development Mechanism projects, the Adaptation Fund could only raise between US$300 and $600 million by 2012.

But there are reasons why rich countries have been reluctant to part with money. "Some industrialized country voices – already stressed by economic crisis expenditures and deficits - counter that adaptation is an ambiguous concept, and that many developing countries have poor track records in using foreign assistance funds in transparent, efficient and non-corrupt ways," commented a paper, Financing Urgent Adaptation by the Geneva-based Global Humanitarian Forum, a non-profit foundation.

And adaptation is not just about throwing a lot of aid to make the problem go away. "Support of adaptation action requires an efficient use of funds as well as an integration into country-driven development policy and planning," pointed out the German Development Institute, a Bonn-based think-tank in a paper on providing budgetary support for adaptation. "There is an urgent need to go beyond vulnerability assessments and the implementation of singular, stand-alone adaptation projects typical of current practice in international adaptation finance."

Q: What problems are there in mobilising and tracking adaptation funds?

A: Quite simply, not enough money is flowing in, and the funds that are being delivered are difficult to track and monitor in the complex and chaotic funding landscape.

Since it was set up in 2001, the Least Developed Countries Fund has received pledges of around $176 million, but it says it needs $1.5 billion to help poor countries address their immediate adaptation needs.

"Current approaches have been built ad-hoc upon an inappropriate aid infrastructure. The result is opaque, underfunded, overly complex, and poorly coordinated," Oxfam said.

Jessica Brown, a researcher at the Overseas Development Institute, a UK-based think-tank, commented in an opinion piece that because aid funding was rooted in the Official Development Assistance approach it was "set up for failure".

The World Bank paper noted that Official Development Assistance (ODA) was meant to help developing countries achieve their Millennium Development Goals (MDGs), and OECD countries had made a global commitment to allocate 0.7 percent of their gross domestic product to this end by 2015, but "funds addressing climate change are not a part of this commitment."

Oxfam pointed out that "Reliance on bilateral aid channels, and the lack of effective developing country representation within multilateral governance structures means that adaptation is not demand-led, but instead is driven by donor priorities and preferences."

Papers by the International Institute for Environment and Development, the World Bank, and the Oxford Institute for Energy Studies emphasised that it was extremely difficult to keep track of funds, as the lines between Official Development Assistance for mitigation, adaptation and development were fudged.

For example, the World Bank said, building a seawall against rising tides could easily be slotted into an adaptation action, but "climate resilient road construction" also had "strong developmental implications".

Many OECD countries viewed climate and development financing as closely linked at the "project level, and difficult to separate", said the World Bank. "Therefore, all concessional aid, irrespective of its use, should be recorded as a part of their ODA."

Some developed countries also count their ODA to environment-related MDGs as their contribution to climate finance.

The Bali Action Plan, a roadmap for a new climate change treaty when the first phase of the Kyoto Protocol expires in 2012, reiterated the need for climate change finance flows to be "new and additional, not taking the place of previous commitments of foreign aid (official development assistance), and which are 'measurable, reportable, and verifiable'", the Oxford Institute for Energy Studies maintained.

Q: Is there a way out of the financing quagmire?

A: Not anytime soon. As the World Bank pointed out, there is a fundamental difference between how developing and developed countries view climate financing. Most developing countries see climate finance as an "entitlement" and not as aid. "Accordingly, it should be considered as an obligation for those who caused the emissions historically, and not structured as repayable loans."

The World Bank noted that "Irrespective of the outcome of this political process", climate change finance needs to be recorded "in a systematic and mutually agreed manner to allow substantive analysis and reporting, tracking progress made in implementing the Copenhagen and post-Copenhagen decisions."

Saleemul Huq, of the International Institute for Environment and Development, underlined the need to monitor and track climate finance. "Developing countries have been burnt before by promises of funding made but not delivered ... Failure to deliver and monitor funding for climate actions will further undermine trust in them," he told IRIN.



Adaptation action needs to become part of government planning
Photo: Geoffrey Cain/IRIN

"The clearest and most unequivocal way to demonstrate the funds are genuinely 'new and additional' is to channel them through Funds created under the UNFCCC." Using traditional bilateral and multilateral agencies made the accounting "extremely difficult (if not impossible)", he said in an email.

OECD member countries that have reached their target on MDG funding can consider climate finance as additional, but for those countries still "below their commitments, or without explicit targets, this will be more complicated," the World Bank paper commented.

The Overseas Development Institute's Brown suggested raising funds through market-based mechanisms, such as an international auction of emission allowances and levies, or taxes from international shipping and aviation.

Remy Paris, who heads the environment and sustainable development section of the OECD's Development Assistance Committee, acknowledged the problems in distinguishing between funds with a development objective and money meant for adaptation projects. "They have very similar objective." The OECD said it hoped a new "Rio Marker", to be applied in 2011, would help.

Q. What are "Rio Markers"?

A: The UN Convention on Biological Diversity, and the UN Convention to Combat Desertification, signed as part of the global UNFCCC at the Rio Conference in 1992 (the "Rio Conventions"), committed developed countries to helping poor countries implement these agreements.

According to the OECD, since 1998 the Development Assistance Committee, using its Creditor Reporting System - the so called "Rio Markers" - has monitored every aid activity aid targeting the objectives of the Rio Conventions to determine whether it has succeeded or not.

The World Bank pointed out that the only Rio Markers for climate change - for mitigation projects - have been applied on a trial basis from 2005, and on an institutional basis from 2008, but not all OECD countries report on them at present.

Huq commented that "Developing a Rio Marker for adaptation will be at least ten times more difficult, in my view."

Food security

Changing technologies to keep up with climate change



Food production is projected to become increasingly difficult because of the variability associated with climate change
Photo: Jaspreet Kindra/IRIN

NAIROBI, 10 May 2010 (IRIN) - Technological innovation is key to helping African farmers cope with the increasing challenges posed by climate change, say specialists.

"Temperatures have increased and the danger is that agriculture is the backbone of [Africa's] economies," Lindiwe Majele Sibanda, chief executive officer of the South-African based Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN), told IRIN. "The increase in temperatures means we have less water in some places and we are already a drought-prone region."

"The technologies that we have on the shelf… like the seeds, may not be compatible with the increased temperatures," she added.

"Malawi recorded world renowned success in terms of food security because we have experienced a fairly stable climate regime over the last 100 years. The technologies that were there [such as] the hybrid seeds… could be taken in, planted. As long they were accessible to the farmers, we could then register increases in yields.

"But the challenge we face now is that there will be new diseases, new vectors and pests that we have not known or seen before …. All these challenges are being superimposed on a system that has not been food-secure," she said.

Africa spends at least US$19 billion on food imports annually yet it has the capacity to be the global breadbasket, she said. "Most of our farmers are smallholders and they are in the business of subsidizing the urban population [but] for as long as we are not creating an environment where they can increase their income and step out of poverty, we will always have [more] poor people yet we have the potential to be food-secure."

About one billion people worldwide were food insecure in 2009, according to estimates, with the food price crisis hitting millions. The UN Environmental Programme (UNEP) Executive Director, Achim Steiner, told the conference, organized by the Consultative Group on International Agricultural Research and the Earth System Science Partnership, that the response to the crisis was similar to the cause of the problem. "We are reducing soil fertility, continuing to bank on water, increasing reliance on fertilizer… the emphasis cannot just be this both from an environmental and cost basis," he said.

"We need to rethink agriculture as a platform from which the world will learn to ensure that 50 years from now we can produce food to feed nine billion," he said.

"Clearly increasing yields is paramount, but we cannot look at the development of agriculture driven by the horizontal approach; slash-burn, moving to new frontiers ... this paradigm is deceptive. You only have so much for horizontal expansion."

He proposed the "vertical expansion of agriculture" through methods such as plant breeding with perennial food crops, and improved farm management practices to increase soil fertility and moisture retention. Perennial crops are less disruptive to the soil structure as there is less tilling and they help trap nutrients.

"Farming in the future will not just be about food production but other services rendered captured in an economic model. If we can prove that a certain farming system is better at reducing carbon emissions, what is there to stop farmers from being paid for their efforts five to 10 years from now?" Steiner posited. "By all means let us have a green revolution but let us give it a capital 'G' this time."

"If we can prove that a certain farming system is better at reducing carbon emissions, what is there to stop farmers from being paid for their efforts five to 10 years from now?"

India's experience

India saw food production rise from about 65 million tonnes in the 1960s to 230 million tonnes in 2008 due to higher yielding varieties, said Pramod Aggarwal of the Indian Agricultural Research Institute. But large yield gaps remain, with India accounting for 25 and 40 percent of the world's hungry and malnourished women and children, respectively.

Aggarwal said improved crop, pest and risk management as well as changes in sowing dates, improved crop varieties; irrigation and fertilizer efficiency could further mitigate climate effects while increasing production.

William Clark, professor of international science and public policy at Harvard University, called for more field-based experimentation. "The world is changing in timescales faster than programmes and feedback. There is a need for safe spaces [for researchers] that encourage innovation," Clark said.

"We need to acknowledge that work like this will be inefficient. We don't have the map; we are inventing it as we go along… we should agree on a target rate of failure in R&D [research and development]."

He added that research ownership was crucial. "What research we can do reflects the power structure. When knowledge influences decisions, knowledge is power. Who sets the research agenda, who says what evidence counts, whose interests are science programmes actually and appearing to serve? Those who feel that their interests have not been taken into research are unlikely to accept the findings …"

Learning by doing

"We are at a stage where we need to learn quickly. Climate adaptation is a classic case of learning by doing," Saleemul Huq, a senior fellow at the London-based International Institute for Environment and Development (IIED), said. "We used to think of adaptation as localized. We are now thinking in-situ in the short term. Planned migration due to rising sea levels, where people may move further inland, may have to be considered in the long term. [We] need a new way although we don't know what this new way is."

He also urged climate and agriculture researchers to link up with universities to train practitioners. "Climate change is a vast area, no one can deal with it alone," he said.

At present, the New Partnership for Africa's Development under its Comprehensive Africa Agriculture Development Programme has prioritized agriculture in four themes: sustainable land and water use, markets and infrastructure, food security, research and technology adoption, with countries expected to commit at least 10 percent of national budgets to agriculture.

FANRPAN's Sibanda said: "We are excited by the new commitment [to agriculture] but time will tell whether there will be[an] impact and the impact will be to reduce the number of people going to bed hungry."

AFRICA: Going rural and green



Farming needs to make money to drive growth
Photo: Jaspreet Kindra/IRIN

ADDIS ABABA, 15 October 2010 (IRIN) - As rural Africa experiences an increasingly moody climate which will erode resilience, drive up hunger and threaten economic growth, it is time countries got serious about development, participants at the seventh African Development Forum in Addis Ababa were told.

Africa's Rural Futures (RF) programme, an initiative of the African Union's New Partnership for Development (NEPAD) and the World Wide Fund for Nature (WWF), sets out plans to boost rural development, and is an attempt to adapt to the impact of climate change.

At the same time, organizations such as the UN Environment Programme (UNEP) and the World Bank are backing the UN's Green Economy Initiative, which is more focused on mitigation.

In his address, Ibrahim Assane Mayaki, NEPAD's chief executive officer, called RF a "new way of thinking about development".

But is it new? At a policy level, Lindiwe Sibanda, head of the Food Agriculture and Natural Resources Policy Analysis Network, a think-tank, explained: "Well, what they are talking about is integrated rural development with agriculture as the driver. It will get all the ministries to look at their sectors with a rural lens. It moves beyond the sectoral approach."

This would do agriculture in Africa some good, she hoped. "Development of agriculture has suffered because of the sectoral approach." Departments of transport, infrastructure and agriculture have not worked in consort in many countries, affecting food production and supply.

In a bid to revive their failing rural economies, some developed countries have been running RF programmes for some years. WWF, which has been involved in some of these programmes, had been looking at an initiative to improve rural livelihoods with a link to improving biodiversity in Africa, when they found NEPAD.

Urbanization

The RF programme is guided by the fact that 60 percent of the population in Africa is rural, though UN projections indicate that the number of urban dwellers is likely to treble over the next four decades.

"Urbanization is a part of the natural evolution of a society, but what conditions will these new urban dwellers live in - slums?" asked Estherine Lesinge-Fotabong, NEPAD's programme implantation head.

"African countries need to bring their own money to the table - then only will they be able to decide what development path or programmes they want to implement"

By providing new impetus to agriculture, the RF programme also hopes to create jobs, absorb the growing population, and tackle food security and gender empowerment. Most subsistence farmers in Africa are women.

Fine-tuning

RF was launched at the Forum, but is still being fine-tuned and is currently at a "strategic document stage". It envisages a two-year period of consultation with countries and civil society across Africa.

RF talks about developing linkages between local and regional markets, but stops short of any connections to industry. "That is its shortcoming, but the programme is still evolving," said Mersie Ejigu, head of the Partnership for African Environmental Sustainability, an international NGO.

Ejigu, a development economist and former minister of development and planning in the Ethiopian cabinet, added: "I am not saying we need to have big investments in massive agro-based industries. It could be small-scale, home-based industries but when you are looking beyond agriculture and adding value, you have to look at processing the primary product."

Donor-dependent

But money, and especially donors, decide the future of any programme in Africa, said Mamadou Cissokho, honorary president of the Network of West African Farmer and Producer Organizations. "African countries need to bring their own money to the table - then only will they be able to decide what development path or programmes they want to implement."

This concern was also voiced by WWF's Gabriella Richardson-Temm: "We are happy with the way this is shaping up and that Africa wants to design their own programme - but then donors, who bring in the funds, come with their own sets of conditions."

RF could also be one of the components of the UN's Green Economy Initiative, which is assisting governments to "green" their economies by reshaping policies to ensure growth on the basis of non-fossil fuel-based energy, backed by sustainable agriculture (with the help of investments in clean technology and public transport that runs on renewable energy). It also focuses on greening other sectors such as waste management and water services.

"You don't want us to grow," said a participant when UNEP's Achim Steiner spelt out the initiative. Coal is still the cheapest source of energy in developing countries. Another said: "But Africa is already green - most of our people use biomass to produce energy."

But you need money to access these alternative green technologies, pointed out Moussa Ould Hwedna, a technical adviser to Mauritania's Ministry of Water and Sanitation. "Ours is a dry country and we need solar power to pump water from underground and the cost of solar energy is prohibitive."

"We would like to adopt these technologies but developed countries should look at making it cheaper for us," he added.

This is one of the issues at the UN climate change talks, the next round of which will take place in Mexico later this year.

Environment

Adaptation policy shift could help the poor



Forests along the Indus have made way for agricultural land, now also flooded
Photo: Jaspreet Kindra/IRIN

JOHANNESBURG, 7 October 2010 (IRIN) - If the Indus delta in southern Pakistan were protected by mangroves, a few hundred villages would have been saved from the floods, say Pakistani environmentalists.

Thriving mangroves are a sign of healthy ecosystems, which require fresh water and a bit of investment. "Unfortunately we have not had both," said Ghulam Hussain Khwaja, president of Sindh Radiant, an environmental NGO based in the delta region in Pakistan's southern Sindh province.

Pakistan, like many other developing countries, has lacked the resources and policy direction to invest in "biodiverse" initiatives such as mangroves, which fall within the ambit of the environment ministry, also neglected, says Hannah Reid, a researcher at the climate change group at the UK-based International Institute for Environment and Development (IIED).

Shift

However, the UN's push for the inclusion of national biodiversity strategies in countries' plans to cope with climate change - their National Adaptation Plan of Action (NAPA) -could change that.

The shift was one of the outcomes of a recent meeting of the secretaries of the three Rio Conventions - Luc Gnacadja of the UN Convention to Combat Desertification, Christiana Figueres from the UN Framework Convention on Climate Change (UNFCCC), and Ahmed Djoghlaf of the Convention on Biological Diversity.

"This is good news for poor communities as most investment in adaptation to climate change has revolved around infrastructure, such as building concrete embankments," said Reid, who has long championed the value of healthy ecosystems as climate insurance. "I am glad that policy-makers have finally begun to join the dots," she said.

Various studies have shown that climate change is set to erode ecosystems, which play a critical role in building poor communities' resilience to climate-related risks.

Most poor communities are "more reliant on ecosystem services and natural resources such as wood, fish, grazing and wild medicinal plants for their subsistence and livelihoods than wealthy people – particularly in times of hardship", writes Reid, in a paper co-authored with Joanna Phillips of Royal Society for the Protection of Birds and Melanie Heath of BirdLife International.

A healthy ecosystem has various benefits, including slowing down the impact of climate change. Mangroves are not only well-known coastal buffers that reduce the strength of waves before they reach the shore and protect against cyclone damage, they also sequester carbon and provide a resource base for local livelihoods and income generation.

Funding gaps

The International Union for the Conservation of Nature (IUCN) in Pakistan has designed a project to plant a mangrove forest in a 100,000ha area in the Delta. "It will cost us about US$19.7 million - we don't have that kind of money," said Tahir Qureshi, senior adviser on coastal ecosystems with IUCN.

But the investment could go a long way towards fortifying the country and its poor communities, which will be threatened by more and intense flooding as the impact of climate change unfolds, said Khwaja. This will also mean mounting costs in future. The UN has already launched an appeal for more than $2 billion to help Pakistan's flood-affected.

Almost 90 percent of the water in the upper reaches of the Indus comes from glaciers located in the Himalayan, Karakoram and Hindu Kush mountain ranges. As global temperatures rise, glaciers are expected to melt at a faster rate, leading to more flooding.

The floods in Pakistan began 11 weeks ago, mainly along the Indus River system, affecting more than 20 million people. Flooding has continued in Sindh, where it has affected more than seven million and destroyed at least a million homes.

It stopped raining more than a month ago, but there is hardly any forest cover or mangroves to check the water as it breaks embankments.



Flooding has continued in the Sindh province
Photo: Truls Brekke/FAO

Pressure on water

As Pakistan's population has grown, more people have settled along the Indus - the main river system - clearing forests along the upper stream to grow food. A network of canals and dams set up by the British during the colonial era has been expanded to divert the river and its tributaries to meet land needs.

It is estimated that 60 percent of the Indus water is used to feed Pakistan's irrigation networks - one of the largest in the world, says the IUCN. The country, predominantly dependent on agriculture, will become the third most populous country by 2050, according to the UN.

"We used to have vast stretches of 'dariyai belas' [riverine forests] but now we have vast stretches of bare land," said Qureshi. So when the Indus makes its way downstream to the delta in Sindh, it is silted, with very little fresh water, said Qureshi and Khwaja.

The intrusion of saltwater from the Arabian Sea has "had devastating effects on the ecology and human economy of the Indus Delta", states an IUCN brief. Mangroves have been affected by the salinity over the years.

Land has become unsuitable for agriculture for the almost 900,000 people who live within the delta, and affected the 135,000 who depend on mangrove resources, such as shrimp catches valued at about $20 million annually in the delta.

Take the plunge

Khwaja pointed out that conditions to invest in mangroves were perfect. "The huge amount of fresh water that has been pumped into the river system downstream thanks to the floods has ironically proven to be a boom for mangroves and the ecosystem in general," he said.

Faced with extreme water shortages in the past, his NGO has struggled to devise various initiatives to revive the ecosystem. "All we need is a bit of money and some [mangrove plant] seeds to distribute to the communities."

IIED's Reid said the challenge now was for Figueres to persuade countries to include ecosystems in their adaptation plans.

But some countries, such as Sierra Leone, Lesotho, Sudan and Bangladesh, have already incorporated development of their natural resources into their NAPAs. "They are still waiting for funds," said Reid.

Early warning

Africa to take a "quantum leap" in forecasting

JOHANNESBURG, 23 November 2010 (IRIN) - Africa has struggled to make accurate and detailed predictions of the impact of climate change on its countries, but the Coordinated Regional Climate Downscaling Experiment (CORDEX) which began earlier in 2010, will see the continent take a "quantum leap" in climate change projection, says Bruce Hewitson, the project's Africa coordinator.

CORDEX, an initiative by the World Climate Research Programme, will help downscale the global climate model climate change projections being prepared for the next assessment report of the Intergovernmental Panel on Climate Change (IPCC) so as to predict, for instance, what impact higher global temperatures might have on Lagos, Nigeria, until the end of this century.

This detailed information will feed into the IPCC's fifth assessment report, expected to be published in 2013 or 2014.

"The priority area for CORDEX is Africa, as it is historically under-researched," said Hewitson, who is also the co-lead author of the chapter on regional contexts in the report by IPCC Working Group II, which will look at impact, adaptation and vulnerability.



African countries will soon have access to more detailed climate change projections
Photo: Manoocher Deghati/IRIN

Projecting the impact of climate change requires studying changes in the long-term averages of daily weather patterns and many other factors, and can be a tricky business.

Scientists use climate models that simulate the possible impact of variables like radiation, moisture content, and the movement of air and temperature over a given period of time to help project what could happen.

To make forecasting the possible effects of climate change as comprehensive as possible, and also make the connection between current events and future consequences clearer, scientists and academics have been expanding the list of variables to include sea level rise and even food price increases and malnutrition statistics.

A climate model works by calculating what the climate is doing, say, in terms of wind, temperature and humidity at a number of points on the earth's surface and in the atmosphere or ocean, according to an explanation on the website, climateprediction.net. The website is backed by the University of Oxford, the Rutherford Appleton Laboratory and The Open University, all based in the UK.

"These points are laid out as a grid covering the surface of the Earth, dividing it up into a lot of little boxes. The more boxes there are, the finer the resolution of the model and the smaller-scale climate features it can represent. From this point of view, the best climate model would be the one with the finest resolution."

Previous climate change models for Africa have typically worked at 200 km resolution - the distance covered by each box in the grid - said Hewitson, who heads the Climate Systems Analysis Group at the University of Cape Town (UCT) in South Africa.

The target for Africa is to predict climate changes for every 50 km, but some modellers might take it down to even 25 km, said Hewitson.

Fourteen climate modelling groups have already begun work, taking into account climate data from as far back as 1950 and looking beyond into 2100. Because of a lack of capacity in Africa, only two groups - one at UCT, led by Hewitson, and the other being the Council for Scientific and Industrial Research (CSIR) in Pretoria, South Africa - are based on the continent.

The 12 other groups are led by the Abdus Salam International Centre for Theoretical Physics in Trieste, Italy, the Swedish Meteorological and Hydrological Institute, the Danish Meteorological Institute and the University of Iowa, which are among the world's foremost climate modelling institutions.

Developing capacity in Africa

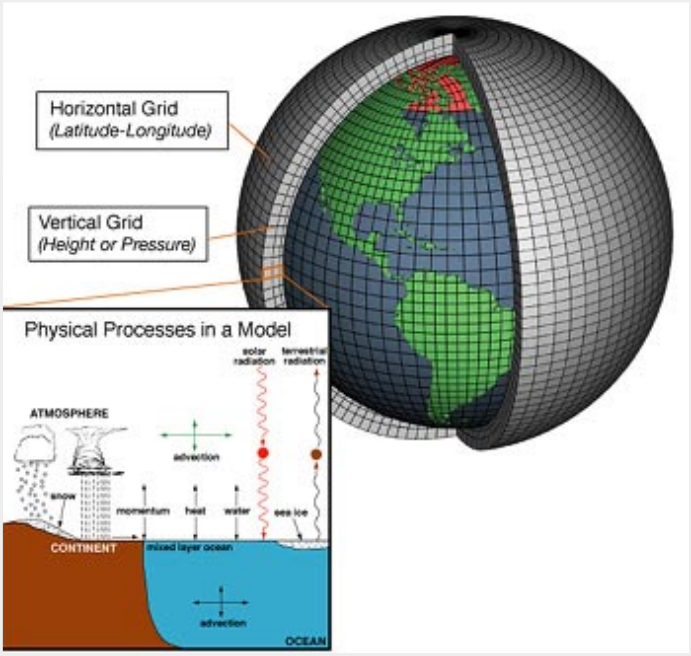
The climate data generated by the modelling groups will be processed by regional teams in Africa led by African scientists, as part of the CORDEX initiative. They will be mentored by top global climate modellers such as Bill Gutowski of Iowa State University, who has been involved in efforts to build a climate research community in Africa for the last decade.

The regional teams will then use the data from the 14 climate modelling groups to develop projections, for instance, of flood

frequency in a particular catchment area.

"The focus [of the modelling in Africa] is on areas that are urban, agricultural, water catchments, and other regionally important aspects," said Hewitson.

The mentors will assist the regional teams in developing projections and writing analyses that will meet the requirement of countries wanting information on the effect of climate change on their food security, health, economic growth and a host of other sectors.



Climate models are systems of differential equations based on the basic laws of physics, fluid motion, and chemistry.To "run" a model, scientists divide the planet into a 3-dimensional grid, apply the basic equations, and evaluate the results. Atmospheric models calculate winds, heat transfer, radiation, relative humidity, and surface hydrology within each grid and evaluate interactions with neighboring points
Photo: NOAA

The regional teams will be finalized by the end of 2010 and data processing will start in 2011.

Finance

Adaptation Fund starts delivering



Money for Senegal
Photo: Pierre Holtz/IRIN

JOHANNESBURG, 24 September 2010 (IRIN) - In what is being hailed as a breakthrough for a "collective effort" by developed and developing countries, the Adaptation Fund set up by the UN to help poor countries cope with the unfolding impact of climate change has finally become operational.

Last week, the Fund's board approved two adaptation projects, one in Senegal - threatened by sea-level rise, less rainfall and high temperatures - and the other in Honduras, which faces increasing water shortages.

The two projects worth a total of about US$14 million are not only the first to be approved by the board but also the first to get money directly from the Fund. Developing countries had been lobbying for direct access, and have now been granted control over how to spend the funds.

The decision is good news ahead of more UN climate change talks slated for December in Mexico.

The money for the Senegal project will be used to implement the country's National Adaptation Plan for Action in the areas of Rufisque, Saly and Joal, along the country's west coast, and will cover actions to protect houses from flooding, erosion and sea-level rise. The project also aims to help rice growers and the fishing community in the region adapt to increased salinization.

Honduras will use the funds to improve water management in its capital region of Tegucigalpa. At least 13,000 households stand to benefit.

Direct access

Direct access marks yet another "positive and innovative action" by the Fund, said Saleemul Huq, lead author of the chapter on adaptation in the Intergovernmental Panel on Climate Change's fourth assessment report.

Huq, a senior fellow at the UK-based policy think-tank International Institute for Environment and Development, said the decision adds to the growing list of "positive and innovative features" of the Adaptation Fund. He said these included "its uniquely innovative source of funding through an adaptation levy, its governance structure, which - again uniquely - has a majority of developing countries, and its genuinely participatory and collegial board".

Besides direct contributions from developed countries, the Fund raises money from a levy of about 2 percent on credits generated by the Clean Development Mechanism (CDM) set up under the Kyoto Protocol, which in turn operates under the UN Framework Convention on Climate Change (UNFCCC).

The mechanism allows industrialized countries to earn and trade emission credits by implementing projects in developed or developing countries; they can then put the credits towards meeting their greenhouse gas emission targets.

Sven Harmeling, co-chair of the adaptation working group of Climate Action Network International, a global coalition of NGOs, said the Fund's board "has shown that a collective effort of experts from developed and developing countries, even with a majority of developing country representatives, has been able to set up a consolidated Fund which had to face many complex and new issues, and which manages to address concerns from different sides with regard to fiduciary standards for direct access."

"Developing countries should now do their best to show that they really want to use the direct access opportunity, to show that they are willing to take up the associated responsibility," he said.

"Developing countries should now do their best to show that they really want to use the direct access opportunity [provided by the Adaptation Fund], to show that they are willing to take up the associated responsibility"

The decision to set up the Fund was taken almost 10 years ago under the Kyoto Protocol. Vulnerable countries are given the option of directly accessing money through their national institutions charged with implementing the projects. The first such body - Le Centre de Suivie Écologique du Sénégal - was approved in April 2010.

Similarities with Global Fund

The Fund's direct access approach is "unique in international environmental governance", said Harmeling, pointing out that the only similar example was the Global Fund to Fight HIV/Aids, Tuberculosis and Malaria, which had inspired it.

"Both funds are the only ones which allow developing countries to directly access resources, and in my view the Global Fund

has shown that it is a workable approach, which can increase significantly the ownership of developing countries... Of course, the scale of the two Funds cannot be compared, since the Global Fund manages several billion dollars."

Harmeling, who is also senior adviser at Germanwatch, a North-South watchdog initiative, asked: "However, if donors admit to give billions of dollars in a direct access health fund, why shouldn't they in an international climate fund?"

Short of funds

Marcia Levaggi, manager of the Adaptation Fund's board secretariat, told IRIN, the Fund had about $150 million - far short of the sum required, according to various estimates.

UNFCCC reckons that by 2030 poor countries would need $28-59 billion a year to adapt; the World Bank $20-100 billion; the European Union Commission $10-24 billion a year by 2020; and the African Group of climate change negotiators more than $67 billion a year by 2020.

Huq noted that while "money is available in the short term for initial projects", there could be bottlenecks "as more countries get their national implementing entities approved and submit project proposals".

Model for the future?

There is still a lot to learn and build on for the Adaptation Fund, which could be the "model for the future" for other climate financing mechanisms, reckoned Harmeling.

The Global Fund's country-coordinating mechanisms such as the multi-stakeholder forum, which decides on which proposals to submit could be a feature to emulate, he suggested.

The Adaptation Fund also needed to build on its repository of national implementing entities "as much as possible while at the same time ensuring that the fiduciary management standards are not weakened," said a paper Harmeling co-wrote with Alpha Oumar Kaloga, a member of the Guinean delegation at the UNFCCC talks.

But a contentious issue is still outstanding: the criteria on which decisions are made as to which project gets the money first. There have been heated debates at various UNFCCC talks on how to assess the extent to which individual developing countries are vulnerable to climate change, allowing a fair allocation of funds.

It was easy to allocate funds to the projects in Senegal and Honduras as they were the only fully-developed proposals on the table, said Levaggi. Harmeling believes it would be better to allocate money regionally as it is not clear that every developing country will submit a project.

Look beyond "cost-benefit" analysis in adaptation



"One size" calculations do not always fit all situations
Photo: Jason Gutierrez/IRIN

JOHANNESBURG, 6 July 2010 (IRIN) - You can put a price tag on the cost of building a dyke to protect people from sea-level rise brought on by climate change, but not on how they will benefit from it, say the co-authors of a new paper calling on countries not to restrict themselves to cost-benefit analysis.

Co-authors Rachel Berger, a climate change policy advisor to Practical Action, an international development charity, and Muyeye Chambwera, a researcher at the UK-based International Institute for Environment Development, said they were prompted to write their paper because countries were in danger of focusing exclusively on the cost-benefit analysis approach.

Quantitative cost-benefit analysis is "information-intensive", making it expensive to use in small-scale projects, so planners at community level usually do not use it. Besides, "Some development NGOs take the view that the local people should usually decide themselves what they want to invest in, using their own criteria," said Berger and Chambwera.

"Most climate change adaptation cost reports produced recently have used the cost-benefit analysis tool," Chambwera noted. What set their alarm bells ringing was the agenda of a recent workshop organized by the Nairobi Work Programme (NWP) on how to use cost-benefit methods for adaptation planning at country and community levels.

The NWP was set up in 2005 under the UN Framework Convention on Climate Change to help developing countries understand and assess the impact of climate change and help them adapt.

Berger and Chambwera's paper had raised "crucial issues to get us beyond mindless 'plug-and-chug' approaches to using cost-benefit analysis to try to make crucial decisions about whether to take certain actions to adapt to climate change," said J. Timmons Roberts, Director of the Center for Environmental Studies at Brown University, in the US.

"The problem is that in our society the language with the most weight is that of money, so there will always be pressure to reduce the complexity of decision-making to tallying up the costs and benefits in some oversimplified currency metric."

Roberts, who has produced key research on the role of foreign aid in addressing climate justice issues, commented: "The key to me is that for each adaptation action, or non-action, different people reap the benefits from those who bear the costs. For this reason, cost-benefit analysis is indeed nearly useless at the local or even national level."

Chambwera and Berger said they were not discounting cost-benefit analysis, which has its benefits an international scale, and cited the Stern Review on the Economics of Climate Change, produced by economist Nicholas Stern for the British government.

"What set their alarm bells ringing was the agenda of a recent workshop organized by the Nairobi Work Programme (NWP) on how to use cost-benefit methods for adaptation planning at country and community levels"

The "Stern Review's finding that the cost of inaction on climate change is 20 times higher than the cost of action has stimulated international policies, leading to local action around the world," they pointed out. But when countries drew up adaptation programmes they would have to be "informed by other factors, such as risk assessment, and not just by costs and benefits".

The researchers urged the NWP to develop a "toolkit" of various approaches to help countries draw up adaptation programmes, to ensure that the most vulnerable communities were not left out of the loop.



The cost of inaction will be 20 times higher, according to economist Nicholas Stern
Photo: Jefri Aries/IRIN

For instance, some economic analyses found that climate change would only affect one percent of Namibia's and Tanzania's gross domestic product, while equity and distributional analyses "revealed that the burden would lie heavily on smallholding farmers and the urban poor".

Roberts noted that "In the US ... [some] climate legislation requires actions be prioritized on whether they are 'cost-effective'. This sounds good, but there are some actions that must be taken to protect the most vulnerable groups, regardless of their payoff in the short term. The question is always, 'Cost-effective for whom?'"

Roberts said the researchers' comment - 'Assuming that adaptation will be sustainable on the basis of a cost-benefit rule alone could be risky' - was crucial.

"The political will to keep spending on an adaptation action through tough economic times is never certain, and this could put some communities at grave risk if they head down a road based on a cost-benefit analysis, done without careful analysis of risks; and of course, many risks are simply unknowable".