Accessing climate-change finance for Sustainable Land Management – Real-world opportunities

Background and account of discussions at a side-event held on November 13, 2008, during CRIC 7, the 7th meeting of the UNCCD's Committee for the Review of the Implementation of the Convention, in Istanbul, Turkey

gtz
CCD Project
Convention Project to
Combat Desertification

On behalf of
Federal Ministry
for Economic Cooperation
and Development

THE GLOBAL MECHANISM
UNITED NATIONS CONVENTION TO COMBAT DESERTIFICATION

This publication contains a summary of presentations and remarks made by participants at a scheduled panel discussion that was held as side-event during UNCCD CRIC 7 in Istanbul, Turkey on November 13, 2008.

Its purpose is to serve as an unofficial work of reference for use by anyone interested in the subject matter.

This publication is not a formal record of proceedings, nor do the views expressed in these pages necessarily represent the policies of any of the organisations that were represented at the event or were involved in planning, funding and hosting it.

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No Trojan Horse for Sustainable Land Management (SLM)

Dr Anneke Trux
Chair, CRIC 7 side-event,
"Accessing climate-change finance for Sustainable Land Management – Real-world opportunities",
November 13, 2008, Istanbul, Turkey
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When I was on mission in Namibia recently, someone I met there said, "Namibia has always suffered from climate variability, and it's getting worse due to global climate change. We know sustainable land management is a key part of our defense. But how do we get funding for it? Nobody wants to hear about desertification anymore. So why not use the climate change discussion as a Trojan horse and get SLM into the global climate discussions that way?"

I sympathised with him, but the time for hiding SLM from view is over. However broad and complex its definition, SLM is fundamental to the future of our planet. As developed and developing nations work together feverishly to prepare a "post-Kyoto" agreement by the end of this year, SLM is being recognised increasingly not just as a means of ensuring food security, preserving biodiversity and alleviating poverty but also as a way to sequester carbon and cushion the impact of climate change.

Of course, my Namibian friend had a point about funding. Tapping into available financial mechanisms demands technical knowledge and creativity. You'll find some relevant insights in this report and also in "Climate change financing – fresh resources for sustainable and management or re-labelling?", our account of a side-event at the 28th Session of the United Nations Framework Convention on Climate Change's Subsidiary Body for Scientific and Technological Advice (SBSTA) that was held in Bonn on June 13, 2008[1].

"The nexus between land degradation and climate change is clear. As we all work towards the new climate regime, we must build a comprehensive and integrated framework that takes into consideration the untapped potential of the soil for storing carbon dioxide."

Luc Gnacadja, Executive Secretary, United Nations Convention to Combat Desertification (UNCCD), Press conference, New York City, October 29, 2008

Our focus this time is on practical aspects. Another new publication, "The climate change mitigation and adaptation information kit", presented to our Istanbul audience by the Global Mechanism's Managing Director Christian Mersmann, provides an excellent practical foundation. And the report you are now reading seeks to answer some further questions: How can SLM benefit from present and possible future sources of climate finance? What are the most suitable funding mechanisms? How to quantify SLM's role in measures to adapt to climate change, or indeed any of SLM's other evident benefits to biodiversity, food security and the maintenance of the world's productive resources?

This report is the latest in an ongoing GTZ series that spotlights the United Nations Convention to Combat Desertification (UNCCD) as the main proponent of SLM and the global fight against drought and land degradation. It offers some real-world examples of how mitigation and adaptation projects are being funded as well as some practice-oriented works of reference.

SLM's importance extends far beyond climate protection. Productive land is a global good for mankind, as important as biodiversity and the atmosphere. That's why I believe that, this year, SLM will attract the worldwide attention it deserves.

1 This event was organised by GTZ, the Global Mechanism and the UN Food and Agriculture Organization (FAO)

Presentations

The opportunities for SLM funding

Robert Tippmann
Head of Policy Advisory Services, EcoSecurities Global Consulting Services;
Adviser to the Global Mechanism

What existing finance opportunities in mitigation and adaptation are of relevance to the United Nations Convention to Combat Desertification (UNCCD)? Already, the current Clean Development Mechanism (CDM) makes an allowance for afforestation and reforestation projects. Further down the road, funding is likely to be included in the post-Kyoto regime for REDD (reducing emissions from deforestation and degradation), and, of particular relevance for the UNCCD, for agriculture, forestry and other land uses, known collectively as AFOLU.

But there are a number of other sources of funds available right now. These can help launch and sustain agriculture and land-use projects in some cases and also allow them to assume a bigger role in mitigation and adaptation efforts, as, for example, the Intergovernmental Panel on Climate Change (IPCC) and the 2006 Stern report have proposed.

Learn about carbon trading

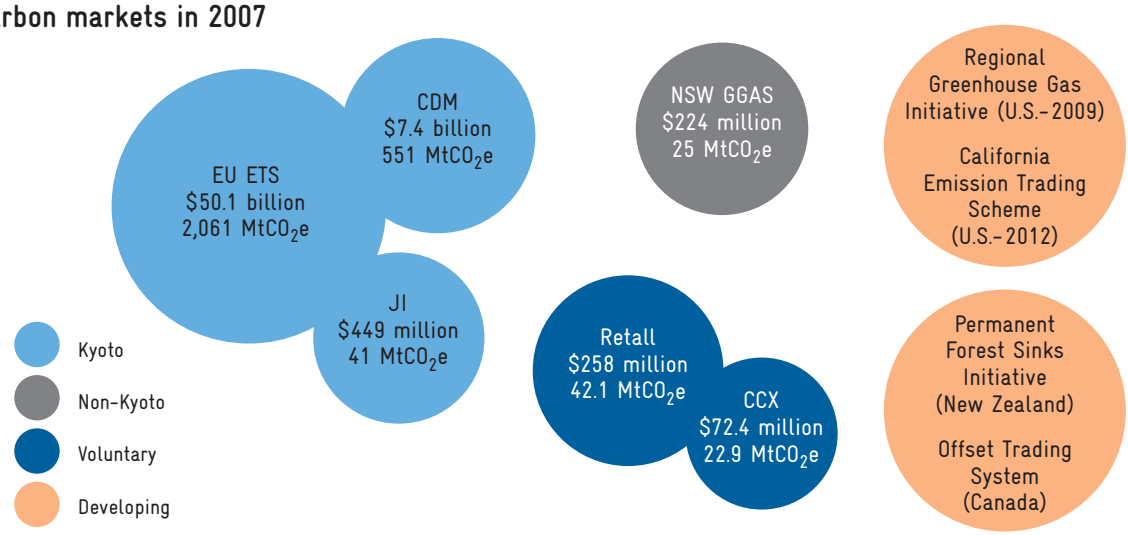
When it comes to funding for mitigation projects, both the compliance and voluntary markets deserve mention.

The voluntary carbon market, which in 2007 was worth US$331 million, first emerged in Europe and Australia in the late '80s before spreading to New Zealand, Canada and the USA. It gained a strong boost in 1995 from the Activities Implemented Jointly (AIJ) scheme, a "learning by doing" instrument in which Parties to the United Nations Framework Convention on Climate Change (UNFCCC) together reduce emissions of greenhouse gases or enhance their removal through sinks, and where forestry and land-use projects feature prominently.

The voluntary market was also stimulated by negotiations that were getting underway around the same time between governments for the so-called compliance regimes, namely the Kyoto Protocol and one of its main financial instruments, the CDM. Many companies realised compliance was coming and started voluntarily to meet their responsibility for offsetting emissions.

On the compliance side for climate change mitigation, the biggest market is the EU's Emissions Trading Scheme (ETS), one that the World Bank estimated was worth about US$50 billion in 2007. As for the three "flexible"

Carbon markets in 2007



Source: State of the Voluntary Carbon Markets 2008

compliance mechanisms under the Kyoto system, there are Emissions Trading, Joint Implementation and the CDM. It's important to familiarise oneself with these systems, however complicated they appear. Despite their teething problems, these markets will grow and strengthen. The voluntary market, in particular, will become more stable and more standardised.

Twin aspects

In fact, mitigation and adaptation are two sides of the same coin. While mitigation has had more exposure to start with, due to the Kyoto Protocol and the CDM, adaptation to climate change is becoming ever more acute under the UNFCCC. Adaptation is not only increasingly important in Africa but also in the EU and the USA. SLM-relevant adaptation includes protecting and enhancing agriculture and forestry, and protecting natural resources, ecosystems and coastal zones. Adaptation projects can range from safeguarding water resources through disaster management and diversifying economic activity to protecting health.

How adaptation is financed today

Substantial funding for adaptation is already available, four relevant funds are managed by the Global Environment Facility (GEF), the financial mechanism of the UNFCCC.

The GEF manages the Strategic Priority on Adaptation (SPA) as part of the GEF Trust Fund, the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF). The SPA finances pilot projects to test adaptation plans, while the LDCF addresses the most urgent and immediate adaptation needs of the least-developed countries (LDCs), as identified by their National Adaptation Programmes of Action (NAPAs). For its part, the SCCF deals with activities in technology transfer and capacity building, in energy, transport, industry, agriculture, forestry and waste management and in economic diversification. The LDCF and the SCCF have their own rules and procedures, and the GEF has streamlined them recently for greatest-possible operational effectiveness.

The newest and potentially biggest source of money is the Adaptation Fund, managed for the time being by the GEF (see page 19). According to some estimates, this fund could be handling a total of more than US$ 500 million by 2012.

Elsewhere, let's not forget the funding opportunities for SLM that exist in a broad variety of development projects supported by bilateral and multilateral donors. And finally, there is real promise in support from the private sector. Among commercial companies, the most immediately promising are the banks, insurance and reinsurance companies and agribusiness: all of them are interested in lessening the negative impact of climate change because it is directly affecting their bottom line.

"The adverse impacts of climate change affect core development needs, including access to drinking or irrigation water, food security, and public health. Adaptation is, therefore, part of development and cannot be addressed in isolation."

www.gefweb.org

Opportunities for SLM funding

What are the concrete financing opportunities, especially for UNCCD-relevant sectors like land-use, rural sector and agriculture? One approach in mitigation projects is reducing emissions by increasing the conservation and sequestration of carbon through various forestry and land-use methods. But there are others, like reduced fertiliser use, anaerobic digestion, livestock management, bioenergy, renewable energy in the rural sector and improving energy efficiency in households.

Here are some pilot projects that cover both mitigation and adaptation measures and might help spark some creative thinking on how to combine both in a given project.

Nepal: From "dirty" biomass to biogas

Millions in developing countries lack clean energy for cooking. Instead, they rely on raw biomass, usually scarce firewood, agricultural residues or dried dung. The choking smoke from household fires damages health, and children and women can spend hours a day gathering these traditional fuels.

The pioneering Nepal Biogas Project aims to break with that practice, and is the country's first under the Kyoto Protocol's CDM. It promotes the use of underground "digesters", large, simply-designed fermentation tanks that use bacteria to generate methane gas from cattle dung and human waste. Supported by Germany's KfW Entwicklungsbank and the Dutch development organisation SNV, together with Nepalese participants, the project pipes clean-burning methane up from the digesters into stoves and lamps, and claims to reduce a household's greenhouse gas emissions by up to five metric tonnes a year.

Recently, the project has started to tap international financial mechanisms to sustain itself. Under an agreement signed in May, 2008, the World Bank's Community Development Carbon Fund (CDCF) will pay Nepal to reduce its emissions by one million metric tonnes over the next seven years through increased use of biogas units. The deal will bring the project from US$7–15 per tonne of avoided emissions.

Tapping into carbon funding

Since 1992, the project has constructed 145,000 biogas units that supply energy for about 15 % of the nearly one million Nepalese households for which they are suitable, the organisers say. About 83,500 more units should be installed by the end of 2009. The deal recently agreed with the CDCF permits private companies in developed countries to buy certified emission reductions (CERs) resulting from the Nepal project. These funds, in turn, will help fund the construction of more digesters, to be sold at cost to poor households, who can finance their purchase with cheap loans from the project's other backers.

Similar biogas projects are underway in Vietnam, Bangladesh and elsewhere in Asia, and also in Africa. The advantages for development seem clear. GHG emissions are cut. The collection and use of firewood is reduced, easing pressure on woodlands and forests and slowing soil erosion. Indoor air quality is greatly improved, while the slurry from the tanks is a good organic fertiliser to increase agricultural yields. The economic benefits appear equally impressive. The organisers claimed that, by the end of 2007, the Nepal Biogas Project had created 11,000 jobs and was supplying over one million persons with low-cost, environmentally-friendly cooking fuel.

Uganda: Efficient cooking stoves

More than 95% of Ugandans rely on fuel wood for cooking, typically charcoal or wood for urban dwellers and wood for rural households, burnt usually at low efficiency with the usual attendant kitchen smoke. The Uganda Stoves Project supplies improved, fuel-efficient wood stoves to families, schools and other organisations in Kampala, the capital, and aims to expand throughout the country. The project is run by ClimateCare, a business unit of J. P. Morgan (see box below), the financial services company, together with the Centre for Entrepreneurship in International Health and Development (CEIHD) and Uganda Stoves Manufacturers Ltd.

The Uganda project aims to install 20,000 stoves per year to start with. The stoves are said to reduce wood consumption by more than 50% and offer much shorter cooking times when compared to conventional Ugandan cooking stoves. The project offers the usual wider benefits, including reduced deforestation, increased family incomes, improved respiratory health, greater business capacity to manufacture and market the stoves, and jobs in retail and after-sales service.

Local consultations

Perhaps most importantly, from an SLM perspective, the organisers also believe that the project represents a solid step toward fuel self-sufficiency for Uganda, in that the efficient wood stoves should help encourage sustainable wood production and harvesting. It has striven for national "buy-in" through local consultations with representatives from government, environmental and civil society organisations, academia and the private sector.

Project design and funding have been innovative, but, in contrast to the Nepal biogas project which targeted the compliance market under the Kyoto Protocol, the Uganda initiative has successfully tapped the voluntary carbon market, where it has earned the coveted Gold Standard. With estimated generated credits of around 518,581 metric tonnes of carbon dioxide equivalent (tCO_2eq) over a seven-year, renewable crediting period (2006–2013), and estimating US$10 per tonne for the relevant 75,000 tCO_2eq per year, this project could make some US$5.18 million on the voluntary carbon market over the first crediting period.

Bank buys into climate change market

A new "market maker" in carbon emission reductions was launched in March 2008 with the announcement that the investment bank of the J. P. Morgan group and ClimateCare, a pioneer in carbon emission reductions, had joined forces to invest in large-scale carbon emission reduction projects and "advance the development of a liquid financial market trading in carbon emission reduction credits".

The combined group will start up carbon emission reduction projects globally and trade the resulting CERs in both the compliance and voluntary markets. For many observers, the move is a clear illustration of growing private sector interest in finding ways to both promote and profit from climate-change adaptation and mitigation, thus accelerating the global roll-out of low-carbon technologies.

Malawi: Helping farmers adapt to floods and droughts

International project to "climate-proof" investments in agriculture, land management and rural livelihoods

Worsening climate change in Malawi threatens to undermine food security, increase poverty and spell failure for the economy as a whole. Now, a five-year, US$ 27.3 million project launched in 2008 and named CARLA, for "Climate Adaptation for Rural Livelihoods and Agriculture", aims to directly support the country's National Adaptation Programme of Action (NAPA) by improving community resilience to unpredictable weather patterns. CARLA's objective is to "climate-proof" Malawi's national drive for sustainable rural livelihoods and secure agricultural production.

Shorter rainy seasons, more extreme weather events

Densely-populated Malawi depends heavily on rainfed subsistence agriculture. More than 80 % of the population, or some 11 million people, draw their daily livelihoods from small farms. Malawi has good soils and abundant water, wildlife, fisheries and forests, but the heavy dependence of the population on these resources makes them vulnerable to climate variability and change.

Present environmental challenges include deforestation, land degradation, water pollution from agricultural runoff, sewage and industrial wastes, and the siltation of fish spawning grounds. Predicted climate change is complicating the picture. Climate models for Malawi show the rainy season coming later every year, which means shorter rainy seasons with higher average precipitation and flooding. Coupled with rising temperatures, this also spells longer dry seasons and more frequent and severe droughts.

Hoped-for outcomes

CARLA aims to improve resilience to current climate variability and future climate change through adaptation strategies and policies to improve agricultural production and rural livelihoods. These include measures such as investing in improved water harvesting and distribution, irrigation efficiency, water recycling, groundwater capture and system rehabilitation. If successful, CARLA will lower the vulnerability of rural communities to climate change and significantly increase their adaptive capacity with more robust infrastructure designs, increased flexibility and resilience of managed natural systems and improved awareness and preparedness for extreme weather events and future climate change.

Dr Bonizella Biagini, the GEF's cluster coordinator for climate change and manager of the LDCF, says CARLA will also "create a political and institutional environment for climate risk management at local, regional and national levels, through targeted capacity building and legislative action. For example, it will train farmers, agricultural extension staff and officials."

Excerpt from a Tiempo Climate Newswatch interview

The CARLA project builds directly on the African Development Bank's (AfDB) Smallholder Crop Production and Marketing Project (SCPMP). It is funded through donor co-financing and the Global Environmental Facility's Least-Developed Country Fund (LDCF). CARLA will run through 2013.

Defining Sustainable Land Management (SLM)

Sustainable land management is a broad subject, and fundamental to the preservation of human livelihoods and the planet itself. The concept, still evolving, includes but also goes beyond sustainable agriculture, as it covers all land resources regardless of whether they serve agricultural purposes or not. Increasingly, SLM is also seen as serving a useful dual function in countering the adverse effects of climate change. More investment in SLM would mean better adaptation to climate change and, at the same time, greater mitigation of carbon emissions, for example through carbon sequestration in soils.

"There are a number of definitions for Sustainable Land Management, many of which indicate the scope associated with the SLM approach, for example:

- Sustainable land management (SLM) is the foundation of sustainable agriculture and a strategic component of sustainable development, food security, poverty alleviation and ecosystem health. SLM can be defined as "the use of land resources, including soils, water, animals and plants, for the production of goods to meet changing human needs, while simultaneously ensuring the long-term productive potential of these resources and the maintenance of their environmental functions" (UN Earth Summit, 1992).

TerrAfrica (2005) has defined sustainable land management as "the adoption of land use systems that, through appropriate management practices, enables land users to maximise the economic and social benefits from the land while maintaining or enhancing the ecological support functions of the land resources."

Sustainable Land Management is … an imperative for sustainable development and plays a key role in harmonising the complementary yet historically conflicting goals of production and environment … SLM … involves a holistic approach.

Thus it requires an understanding of:

- The natural resource characteristics of individual ecosystems and ecosystem processes (climate, soils, water, plants and animals);
- The socio-economic and cultural characteristics of those who live in, and/or depend on the natural resources of, individual ecosystems (population, household composition, cultural beliefs, livelihood strategies, income, education levels etc);
- The environmental functions and services provided by healthy ecosystems (watershed protection, maintenance of soil fertility, carbon sequestration, micro-climate amelioration, biodiversity preservation etc); and
- The … opportunities for the sustainable utilisation of an ecosystem's natural resources to meet peoples' welfare and economic needs (e.g. for food, water, fuel, shelter, medicine, income, recreation).

SLM recognises that people (the human resources) and the natural resources on which they depend, directly or indirectly, are inextricably linked. Rather than treating each in isolation, all ecosystem elements are considered together, in order to obtain multiple ecological and socio-economic benefits." [2]

2 "TerrAfrica: A Vision Paper for Sustainable Land Management in Sub-Saharan Africa", 2008 http://knowledgebase.terrafrica.org/ter-documents/ter-view-doc/fr/?uid=44758

The case for silvopastoral systems

Alejandro Kilpatrick
Programme Coordinator, Latin America and the Caribbean, and Climate Change and Environmental Services Strategic Programme (CCES), The Global Mechanism

There are a number of deserving sectors that haven't got much attention yet, in particular the silvopastoral systems (SPS) of Central America. And experience shows that SPS everywhere could serve a double purpose. For just as climate change has considerable impact on livestock productivity and land degradation, proper management of SPS can be a way of both mitigating climate change and adapting to it. SPS is very relevant to the UNCCD because of its obvious role in SLM and rural development, and SPS can also obtain climate change financing.

The impact of livestock

In Central America, livestock occupies more than 40 % of agricultural land. In some parts, it's up to 60 %. We all know that worldwide, the forestry sector contributes close to 25 % of overall global GHG emissions. The proportion of that amount stemming from livestock is hard to define precisely, but it's significant.

Traditional pastoral systems are often based on monocultures, and this makes them highly susceptible to climate change. Close to 60 % of the pastoral lands in Central America are already degraded. Some studies have attempted to quantify on-site losses due to degradation, but there's an urgent need to go beyond the ranches and farms and look at the off-site losses, as well, in terms of their social impact and the loss of environmental goods and services.

An intensive, diversified SPS can help communities adapt to climate change. Selecting tree varieties and other wood species that are suited to drought conditions will help improve the resilience of livestock systems. The resulting improved shade factor increases the amount and quality of available fruit and forage, reduces heat stress for animals and increases their productivity. Good silvopastoral systems can also prevent overgrazing and land degradation, and improve nutrient cycling and erosion control.

Higher yields and carbon stocks, lower emissions

A four-year GEF-funded project in Latin America compared the yields of improved grassland that had received no fertiliser with an equivalent area of land under intensive SPS, and found that, among other positive indicators, milk production on the land under SPS, as measured in liters per hectare per year, was about 46% higher. Studies in 2004 in Esparza, Costa Rica, also showed that the above- and below-ground carbon stock of silvopastoral land with trees considerably exceeded that of degraded or native pasture land.

Silvopastoral systems can help reduce emissions in a variety of ways. Sustainably-grown wood can replace fossil fuels in certain kinds of energy production and also substitute as a building material for steel and cement. The higher-quality forage grown with SPS can mean reduced emissions of methane (CH_4) during ruminant fermentation. Leguminous trees also fix nitrogen, allowing less use of nitrogen fertiliser and thus lower nitrous oxide (N_20) emissions.

Farmers can establish possible offset on other gases like ammonia (NH_3) and nitrogen oxide (NO_3), adapt feeding strategies to reduce the greenhouse gases CH_4 and N_20 and implement strategies to sequester carbon. The reduction of CH_4 and N_2O emissions is crucial as they have a global warming potential (GWP) that is 21 times and 310 times higher, respectively, than the GWP of carbon dioxide (CO_2).

"The current climate crisis adds salience to efforts to promote SLM and biodiversity conservation. SLM has a central role to play in helping people adapt to and cope with the impact climate change already has, but also has great potential in mitigating climate change."

Background paper,
"Land resources governance in support of MDGs",
United Nations Development Programme (UNDP),
Oslo Governance Centre,
November 2008
www.gefweb.org

How silvopastoral systems can access funding

Indeed, SPS have a major potential role in carbon sequestration. A lot of bilateral and multilateral donors are earmarking resources for adaptation, and SPS can tap into them. 65% of all anthropogenic N_2O is said to come from livestock in Asia and Latin America. And globally, the livestock sector releases 37% of all anthropogenic CH_4, mainly from ruminant enteric fermentation. As we know, methane has 21 times the GWP of CO_2. Thus, reducing CH_4 by improving animal feeding techniques and animal waste management is potentially very profitable in terms of the certified emission reductions (CERs) it can obtain.

Many gases produced by livestock are eligible for compensation under different financial mechanisms, for example, CH_4 avoidance and N_2O reduction under the CDM. But there haven't been enough projects developed in this sector because investments are lacking. In the past, the private sector wasn't very keen, preferring to go for the so-called "low-hanging fruit", like large plantations.

But now there's increasing attention. This is a good time for the UNCCD and sustainable land management to take a look at voluntary carbon markets. They are the best option at present because land use and forestry are the dominant sectors in this market. Silvopastoral systems are win-win in that they improve social-economic wellbeing, reduce GHG emissions and enhance resilience to climate change at the same time. There's a lot of talk about making the CDM more flexible in the post-2012 regime, and prospects are hopeful that it will accommodate more land-use aspects, but we should work with what we already have now.

Panel discussion

Panelists were challenged by a host of questions. For example, what do adaptation and mitigation mean for drylands? What SLM strategies should be pursued in these cases? What are the current knowledge gaps concerning SLM's potential to reduce emissions and increase resilience to climate change? How to generate data on the risks of climate change at national and local levels? A selection of comments:

Noel Oettlé
Environmental Monitoring Group (EMG), South Africa:

In South Africa, there's a lot of talk of adaptation, but not much is coherent and commonly agreed on. I would like to offer some thoughts on that.

In the agricultural context, successful adaptation depends on the enhanced abilities of people who use natural resources first to understand ongoing change and its probable impacts on their livelihood systems and then to analyze the likely outcomes of those impacts. It's about planning interventions and then, most crucially, acting individually or collectively, and finally reflecting and assessing what the results of those actions are. This is an ongoing process.

What are the knowledge gaps? From a grassroots perspective, I'll stick my neck out and say that most African farmers don't really understand what carbon is in its various forms, or the dynamics of carbon in agricultural systems and the atmosphere. The carbon that is here in this room, for example, is intangible and it can't be detected by the lay person.

Smallholders are learning about carbon

Over the last five years, I've been working with small-scale farmers in an area severely affected by climate change. The results were recently published (see "Farming on the edge in arid western South Africa: Climate change and agriculture in marginal environments", (see page 25). The article describes the methodologies we've applied and the adaptation approaches the farmers have been using in their production systems. Key to that adaptation in arid lands is carbon, in its more tangible forms, as organic matter, that increases the water-holding capacity of soils, and decreases erosion and loss of nutrients during heavy rainfall or through wind erosion.

It's been great to see how farmers are hungry for knowledge and take this on board. They are now able, within local communities, to talk about carbon in a way that could make sense even for those of us with a more academic background and better understanding of chemistry. But it's a long, slow process, especially for people who are coming at it without the benefit of an elementary school education.

"Questionable" carbon trading regime

The amount of carbon we've collectively emitted to travel here to this meeting is probably more than a thousand farmers in Africa emit in a lifetime. We're dealing with a problem generated in the North, and we're expecting farmers in the South to be part of the solution.

I think the whole carbon trading regime is profoundly questionable. It's an expensive, complex system that is, frankly, a huge cop-out by the North from the need simply to impose mandatory carbon reductions. That, crudely speaking, is what it is, and we can't wish it away. We're designing these systems in the usual top-down manner, and rolling them out at a time when our knowledge-base is still dominated by conventional approaches to adaptation and SLM has barely achieved critical mass.

A wake-up call

There's great enthusiasm in South Africa in government, non-governmental organisations (NGOs) and business to run out and get the goods that are on offer from the carbon trading systems, but we have be extremely careful here. For example, a very large-scale re-vegetation project is being planned in South Africa using an indigenous plant, which has been degraded over time by agricultural practices.

From a biodiversity conservation, desertification and climate change perspective, this is a good project, but it has certain profound pitfalls. For one thing, it will be employing people at a poverty wage to do the work, so local community involvement will mean working with a pick-ax and a spade and getting a minimum wage. In terms of their understanding of what they're doing for the global climate, and in terms of local ownership, the outcome is likely to be very minimal.

Let me share this little wake-up call: unless there's local ownership by land managers and other resource users, interventions to promote adaptation and carbon sequestration will fail. Let's not get too carried away with the opportunity of mobilising billions of dollars to do things when, at the end of the day, the result is a lack of local ownership or absurdly expensive systems of verification by outside experts. Carbon is difficult to track: it's ephemeral, it's very hard to pin it down, and it can move rapidly through natural systems.

Are Africa's farmers adapting?

IFPRI research shows up some major constraints

A survey of nearly 800 farm households in the Limpopo Basin in South Africa and approximately 1,000 households in the Nile Basin in Ethiopia, published in November 2008, has shed light on the ability of poor farmers and livestock herders – who will likely bear the brunt of climate change – to adapt to climate-related shocks, especially drought and long-term global warming. The project was conducted by the International Food Policy Research Institute (IFPRI), the Center for Environmental Economics and Policy in Africa, the Ethiopian Development Research Institute, the Ethiopian Economics Association, and the University of Hamburg, Germany.

Some key findings

- Two-thirds of rural South African households in the Limpopo River Basin and more than a third of Ethiopian farmers were not making any adjustments to their farming practices in the face of global warming.

- South African farmers identified lack of access to credit as the single biggest constraint to adapting to climate change, followed by lack of water, information, and market access, and insecure property rights. In Ethiopia, farmers identified lack of land as the major obstacle, followed closely by lack of information and credit. They also noted that lack of labour, inputs, and water, as well as poor soils, prevented them from adapting.

- Farmers who did adapt irrigated more, harvested water, planted different crops, changed planting dates, and practiced soil conservation, including the planting of trees. Farmers were more likely to adapt if they had access to credit and extension, owned private property, and had more farming experience or mixed crop and livestock farms.

This IFPRI initiative was supported by the Federal Ministry for Economic Cooperation and Development, Germany, under the project "Food and Water Security under Global Change: Developing Adaptive Capacity with a Focus on Rural Africa", part of the CGIAR Challenge Programme on Water and Food. Its purpose was to help policymakers and stakeholders in Ethiopia and South Africa understand and analyze the consequences of climate change and facilitate adaptation in these countries and beyond.

See http://www.ifpri.org/pubs/ib/rb15.asp#sum

Sergio Zelaya
United Nations Convention to Combat Desertification (UNCCD):

I foresee that, in future, land will enjoy the same attention that climate change has enjoyed in the last 20 years. But, to get there, we have to act now on climate change and on drought, land degradation and desertification (DLDD). First, because DLDD is being worsened by climate change, and second, because combating DLDD is part of the solution at the Copenhagen talks. For agreement in Copenhagen to be complete, land has to be included, both as means for adaptation and as a source of carbon sequestration.

UNFCCC Executive Secretary Yvo de Boer speaks of two milestones in climate change. One, in 1997, was in mitigation, with the launch of the CDM. The other was the Bali Action Plan in 2007, the start of the adaptation process. Both milestones are important for the UNCCD. The strategy agreed upon by the UNCCD Conference of the Parties (COP) in 2007 was to obtain recognition of the UNCCD as the key global partner and focal point when it comes to dealing with the impact of DLDD on climate change and biodiversity.

Create evidence-based options

At an operational level, we must map all the existing opportunities in which land and soils can be part of the solution. For this, we need a strategic approach. The UNCCD is working to insert this agenda into all discussions of mitigation and adaptation. By partnering with UN agencies like FAO and United Nations Environment Programme (UNEP), we are striving to create evidence-based options for addressing DLDD through the opportunities provided by climate change financing mechanisms.

We have to ensure that Annex I countries, when fulfilling their obligations to reduce emissions under the UNFCCC, incorporate DLDD through the methodologies, technologies and practices of sustainable land management. These must be part and parcel of the instruments they employ, for example the CDM and the mechanisms to finance adaptation, including the newly created Adaptation Fund. We must also make developing countries aware that the negotiations on climate change adaptation and mitigation have a vital bearing on DLDD.

Robert Tippmann
EcoSecurities:

The private sector is already entering the game, as far as mitigation is concerned. But success depends mainly, from my point of view, on proper project finance and project design. If you're just selling the carbon component to the private sector, fine, but just remember to make sure you can generate carbon credits for 7–10 years. That sort of time-span exceeds your usual Official Development Assistance (ODA) cycle.

Finding a carbon buyer usually provides only a contribution to overall project investment, and experience shows that projects usually need more. You need a broader financial structure, either equity, bank loans or donor funding or a combination of these, to get things going. Attracting private sector involvement demands a viable project that generates a flow of revenue.

Business needs a convincing case

Adaptation projects mostly have been donor-funded until now, but if you're looking to broaden stakeholders beyond the donor community, the challenge is to interest banks, reinsurers and insurers and agribusiness, who will also need a convincing business case to get involved.

As for the Adaptation Fund, can we avoid creating another GEF, with all its slow procedures and bureaucracy, where access is difficult and getting funding sometimes takes five or more years?

And to answer Noel Oettlé's criticism of carbon trading, I know the views that say, "You in the North, you created these problems, so you'll have to solve them. Don't ask the Third World countries to help." I think that's a bit simplistic: carbon trading is only part of the package of necessary measures to mitigate climate change. Domestic measures are just as important, or even more important. Local communities must be fully engaged in the benefits. Yes, mistakes have been made, and there are carbon cowboys out there, but there's a lot of quality out there, too.

The Adaptation Fund: Striving for simplicity

Parties to the Kyoto Protocol (KP) of the UN Framework Convention on Climate Change approved the Adaptation Fund at the Bali Climate Change Conference in December 2007. The fund, which will shortly come into effect, aims to support countries with money, technology and know-how in their adaptation to climate change and will be financed with 2% of the Certified Emission Reductions (CERs) issued for projects of the KP's Clean Development Mechanism (CDM).

"The Adaptation Fund is unique", says Yvo de Boer, Executive Secretary of the UNFCCC, pointing to its chief source of income, the 2% levy on the CDM's projects to mitigate climate change. "It's not reliant on donor funding or overseas development assistance" he says. "This is the climate regime beginning to become self-financing."

Press release UNFCCC, Bonn, March 28, 2008

Strong developing-country representation

The Fund will accept applications from all countries, but especially those from Least Developed Countries (LDCs) most vulnerable to climate change. For the time being, the Global Environmental Facility (GEF) in Washington DC will manage day-to-day operations for the Fund and the World Bank will act as trustee.

The Adaptation Fund Board is composed of 16 members and 16 alternates, with a significant majority from developing countries – unprecedented in the history of development financing. The influence it accords to poorer nations is one of the fund's most innovative aspects. "They will determine how financial resources are spent," says Yvo de Boer.

Press release UNFCCC, Bonn, March 28, 2008

Simplicity is another goal. Board Member **Octavio Perez Pardo**, UNCCD National Focal Point, Ministry of Environment, Argentina, says one of the Fund's aims is to build on lessons learned and avoid recreating the procedural complexities for applicants that in the past slowed their access to other funds managed by the GEF. "We're designing a clear and uniform operational modality for analyzing each project", Mr Perez Pardo told during the Istanbul side-event. "And we'll permit eligible Parties direct access, alongside the option of working through accredited executing agencies at national level, or through international implementing agencies like the UNDP, UNEP or the FAO."

Eligible countries and projects

The Adaptation Fund is intended for developing countries that are particularly vulnerable to climate change. These include, among other things, arid and semi-arid areas or areas liable to floods, drought and desertification, and developing countries with fragile mountainous ecosystems. Funding will be on a full adaptation cost basis and available for projects and programmes at national, regional and community levels. These must be consistent with national sustainable development strategies and national technical standards, and also offer economic, social and environmental benefits.

The Board will also emphasise cost-effectiveness, arrangements for management, including financial and risk management, and for monitoring and evaluation and impact assessment. Decision criteria on the allocation of resources will also take into account the level of vulnerability and the level of urgency and risks arising from delay.

More funding after Copenhagen?

The Fund got the final go-ahead at the December 2008 UN Climate Change Conference meetings in Poznan, Poland, but not without acrimonious debate. Given UN estimates that adaptation in developing countries could cost some US$80 billion a year by 2015, the Adaptation Fund's modest aim to raise about US$250 million annually through 2012 has disappointed many developing country governments. However, the prospect is for more substantial income if global agreement on a new and longer-term "post-Kyoto" climate pact is reached in Copenhagen in December 2009.

Meanwhile, the Adaptation Fund hopes to keep its policies and procedures streamlined and its ear attuned to SLM. "We don't want to create a monster", Mr Perez Pardo told the Istanbul meeting. "We want a dynamic organisation. And it's very important to forge a strong link between desertification and adaptation." Desertification, land degradation and drought, the chief concerns of the UNCCD, are to be included in a planned operations manual, he said. "The priorities of the Adaptation Fund Board clearly include agriculture, water and land management."

Open discussion

Alejandro Kilpatrick
The Global Mechanism (GM):

How can we help projects qualify for the Adaptation Fund? What is adaptation, exactly? Typical rural development programmes, irrigation systems, are now being called adaptation programmes. How to link the respective practices with available modeling? How to demonstrate what your practices will look like in 10 years time? We have to be realistic. Not all desertification or SLM projects will qualify for the Adaptation Fund. We have to link more strongly with models and the science, and focus not only on short-term measures but also on the medium- to long-term horizons for climate change. Projects must bring additionality. We must promote more dialogue between the Conventions, and between the Focal Points of the respective Conventions. Often the Focal Points don't speak to each other. Whatever we do, we must avoid creating more fruitless competition for available funding.

Robert Tippmann
EcoSecurities:

We should get acquainted with a new acronym, AFOLU, or agriculture, forestry and other land uses, which is actually the successor to LULUCF (land use, land-use change and forestry), a term that stemmed from the negotiations around the UNFCCC and its Kyoto Protocol.

When these negotiations reached the Marrakesh Accords in 2001, in order to cut a deal on the KP and then on the CDM, we had to settle some very heated discussions around carbon sinks, land use and forest conservation. Some Parties to the Convention and many NGOs were against including these issues, so we ended up with a CDM applicable only to energy and renewable energy projects, and very restricted rules on afforestation and reforestation. Forest conservation was basically left out.

The cost of inaction

20 % of global emissions come from deforestation. REDD will not solve this alone, granted, but it can be a trigger. There's a positive new momentum on this issue now. Even NGOs that previously stressed the negative impact of massive monoculture plantations and the apparent lack of benefit for indigenous populations are now saying that the carbon markets can be part of the solution. Governments and NGOs are all aware that if we don't do anything with the 20 % emissions from deforestation plus the impact of agriculture, all that we have achieved under the KP will suffer.

Andrea Kutter
Global Environmental Facility (GEF):

It's true that the GEF is rather complex, due to the fact that it is the product of a difficult search for international consensus. However, we're in the midst of a major reform process of the GEF. For example, the time needed from the presentation of an idea to the final approval of a project has been reduced from 66 to 22 months. There is also a discussion underway on widening the pool of entities that may access GEF funding if certain fiduciary standards are met. We have just launched our fifth replenishment process together with a big package of additional reform measures. Our aim is to enhance the GEF as an attractive partner for implementing the objectives of the Multilateral Environmental Agreements such as UNCCD, CBD and UNFCCC within the context of sustainable development.

We're also watching with some concern the current debate on forests and climate change. Our observation is that, too often, donors are very willing to invest in forests on the grounds of climate change mitigation. This oversimplification is a worrying trend. In the GEF, we believe that it's not enough to see forests as just a simple carbon pool, but rather as what they are: a complex ecosystem threatened by multiple factors but also providing multiple environmental, livelihood and cultural benefits. The right approach is to address the multiple threats simultaneously. For example, the GEF has been emphasising recently that REDD is not the whole answer to deforestation. REDD is just one of several necessary measures, and should be put in the context of wider sustainable forest management, where it belongs.

I would caution pushing the UNCCD in the same direction. The Convention should not get the idea that carbon is the promising new money source, and think, "So, let's just focus on carbon!" If we lose sight of an integrated approach to natural resource management, including forest management, we might lose the livelihood benefits and biodiversity benefits and suffer trade-offs in the longer term that we will probably regret.

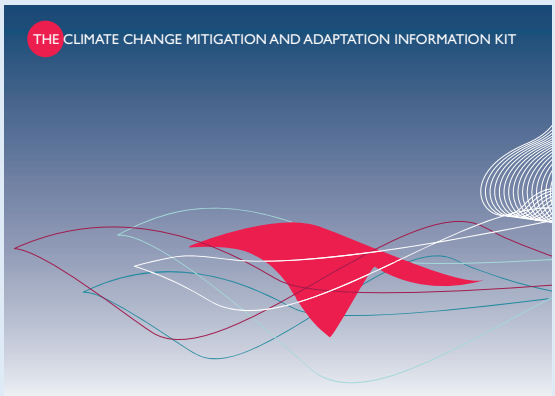
New information kit on climate change mitigation and adaptation seeks to fill knowledge gap

One of the most comprehensive accounts to date of the options available to countries seeking to beef up their national policies for mitigation of and adaptation to climate change is now available as a free download.

The four-part, 143-page document covers the linkages between the UNFCCC and the UNCCD, SLM's role in adaptation and mitigation, ways to access carbon finance and a glossary of terms used in climate change mitigation and adaptation.

Step-by-step guidelines, case studies and resource lists explain how best to design and present projects for mitigation and adaptation. According to the Global Mechanism's Alejandro Kilpatrick, "Building the capacity for adaptation is an even greater challenge than the search for funding". And according to the Global Mechanism's Managing Director Christian Mersmann, who presented the new information kit at the Istanbul side-event, "Mitigation and adaptation cannot be seen separately. We have to address them jointly, we have to be together and we have to move now."

Download the information kit
www.global-mechanism.org/dynamic/documents/document_file/ccesinfokit_web-1.pdf



Noel Oettlé
Environmental Monitoring Group (EMG):

I believe that carbon is key. In Iceland, soils that were degraded through human agricultural activity and then deliberately re-vegetated through conscious agricultural measures have been shown to sequester very impressive amounts of carbon per annum. Where severe human-induced degradation has occurred, leaving nature as it is, in the hope that it will recover on its own, is just wishful thinking. The right agricultural practice can make a huge difference and provide all the additional ecological benefits we've just been hearing about. Another example is in the drylands of South Africa, where we've seen that degraded drylands don't simply recover by themselves. They need appropriate human intervention. There's a very strong case to be made for agriculture as a sequestration mechanism for carbon.

Dr Christoph Kohlmeyer
Federal Ministry for Economic Cooperation and Development (BMZ), Germany:

Noel Oettlé said carbon is key, but I question that. I'm not a natural scientist, but is it really key? I have been following the biofuels – or "agrifuels" – discussion as it relates to land, and there seems to have been a clear shift of understanding. Land has gone from being a carbon sink to being a carbon and N_2O emitter. One of the conclusions for the UNCCD could then be that its biggest contribution to avoided climate change is to leave land as it is and not promote further land-use changes, particularly not when it comes to bio-fuel cultivation. The section on biofuels in the GM's new information kit might need some revision in the light of these recent research findings. Given the increased knowledge about land and carbon, the Convention should intensify the search for new forms of agriculture that are more sustainable and don't disturb land as much as conventional agriculture does today.

The human right to food

In many parts of Africa, for example, traditional knowledge systems have become invalid because of climate change. For example, the rainy season is no longer predictable, and nor is the annual agricultural calendar. Adaptation is the more relevant agenda, yes, but we need a short-term adaptation agenda that brings high-tech into traditional knowledge systems, and that's a real challenge on its own. Longer term, we need an in-depth farm systems research programme to respond to the IPCC scenarios of 2025 and 2050. This will take time to be implemented, so our emphasis should really go in this direction now.

When it comes to justifying investment in sustainable land management, is the carbon path the right one? Surely we also need to consider the human rights perspective: the human right to food, in particular, is of critical importance here. Investment in SLM should not be motivated by the fact that CO_2 sells at US$ 30–40 a tonne. Instead, the real social and economic value should derive from the amount of poverty that can be reduced by investing in agriculture. The World Development Report 2008 shows that for every dollar invested in agriculture, poverty is reduced by four dollars. No carbon fund or other intervention can provide that sort of leverage.

"Climate negotiators must include agriculture, forestry and other land uses"

SLM will have to be part of climate-change architecture beyond 2012

One of the biggest challenges for an effective post-2012 climate agreement will be to widen its coverage beyond mitigation to adaptation, and to embrace sustainable land use, including avoided deforestation, in a far broader and more effective onslaught against global warming.

Where will SLM and drylands fit in? "The negotiators must explicitly incorporate agriculture, forestry and other land uses, or AFOLU, so as to ensure that the financial mechanisms that emerge will be conducive to supporting SLM-related activities as valuable measures to mitigate and adapt to climate change", says the Global Mechanism's Alejandro Kilpatrick.

Negotiators must ensure this time that all the major GHG emitters – including the USA, but also emerging economies such as China and India – commit measurably to reduce their emissions. In December 2009, the 15th conference of the Parties to the UNFCCC (COP 15) in Copenhagen, Denmark, will aim to seal a new global climate agreement, to come into force on January 1st, 2013. Host Denmark is preparing to receive ministers and officials from all 189 UNFCCC signatory countries and up to 15,000 participants.

The negotiations in 2009 run down two parallel tracks. On one, industrialised countries have to reach agreement on the mid-term cuts (by 2020) in global GHG emissions, and on how to achieve them, while the other Kyoto Protocol signatories must together determine the extent of their own emission reduction targets. On the second track, all the countries heading towards Copenhagen must jointly shape the articles and clauses for four "building blocks": adaptation, mitigation, transfer of climate-friendly technology, and finance.

Three essential outcomes

At COP 15 in Copenhagen, the two negotiating tracks are to converge in an agreement that, among other things, defines the emissions reduction targets of all industrialised and major emerging countries, the funding and technology needed for emissions reduction and adaptation in developing countries, and the institutions that will deliver the necessary support. While they may not resolve all technical details, negotiators will have to achieve these three outcomes for the conference to be called a success.

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  "Climate Change Financing for the UNCCD – Funding Opportunities to Support SLM and Project Examples from Asia and Africa". November 13, 2008. Robert Tippmann. EcoSecurities Global Consulting Services.
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Glossary

AIJ Activities Implemented Jointly. The name of a pilot phase to build experience and "learn by doing," launched by COP 1 (Berlin, March/April, 1995) of the UNFCCC. Under AIJ, Annex I Parties could implement projects in other countries that reduce emissions of greenhouse gases or enhance their removal through sinks.
http://unfccc.int/cooperation_support/activities_implemented_jointly/items/2307.php

AfDB African Development Bank.
www.afdb.org/

AFOLU Agriculture, Forestry and other Land Use. The UNFCCC and its Kyoto Protocol requires the Parties to regularly report inventories of anthropogenic GHG emissions and removals, and to publish and regularly update measures taken to mitigate climate change. The AFOLU sector is considered important to achieve the reduction targets, for example by reducing emissions of GHG such as N_2O and CH_4 in agriculture and increasing CO_2 sinks in forestry. However, due to the high complexity and definitional uncertainty of this sector, quantifying and reporting its GHG balance in a variety of different global contexts is technically and scientifically challenging. See also "LULUCF".

Afforestation/reforestation (A/R)
The official UNFCCC definition of afforestation is "the direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planting, seeding and/or the human-induced promotion of natural seed sources." Reforestation is defined as "the direct human-induced conversion of non-forested land to forested land through planting, seeding and/or the human-induced promotion of natural seed sources, on land that was forested but that has been converted to non-forested land." A/R projects (but not projects to curb deforestation) qualify for inclusion in the CDM. However, these are capped at 1% of the total amounts of million tonnes of CO_2 permissible under current CDM rules for each of the five years (2008–2012) of the Kyoto Protocol's first commitment period. See a full glossary of CDM terms at
http://cdm.unfccc.int/Reference/glossary.html

Bali Roadmap
Also sometimes called the "Bali Action Plan", the roadmap was adopted by countries participating at the UN Climate Change Conference in Bali, Indonesia, December 3–14, 2007. It lays out steps to be taken in order to reach agreement by December 2009 in Copenhagen on a treaty replacing the UNFCCC's Kyoto Protocol.
http://unfccc.int/files/meetings/cop_13/application/pdf/cp_bali_act_p.pdf

BMZ Federal Ministry for Economic Cooperation and Development, Germany.
www.bmz.de/en

Carbon trading
Under the UNFCCC, the carbon trading system helps industrialised countries meet their KP emissions targets by allocating mission allowances, or permits to individual companies to emit a given quantity of GHGs. If a country exceeds its national emissions targets, it can buy permits from countries that have remained within their targets. Similarly, companies within a country that prove able to reduce their emissions are allowed to "trade" excess permits with other, more polluting companies. The trading system involves the issuing of carbon credits for activities such as afforestation and reforestation, as long as the forest was established after 1990 and the carbon it is sequestering can be reliably measured. Credits are issued to the individual or company that is growing the forests and thus contributing to carbon sequestration. These credits can then be bought by a carbon emitter, such as a power company, to offset its excessive carbon emissions.

CARLA Climate Adaptation for Rural Livelihoods and Agriculture, a project in Malawi.
www.gefweb.org/uploadedfiles/LDCF/LDCF_insert_Malawi.pdf

CBD Convention on Biological Diversity.
www.cbd.int

CDCF Community Development Carbon Fund of the World Bank.
http://go.worldbank.org/5DLKXFFQT0

CDM The Clean Development Mechanism (Art. 12 of the Kyoto Protocol) allows emission-reduction (or emission removal) projects in developing countries to earn certified emission reduction (CER) credits that can be traded and sold, and used by industrialised (Annex I) countries and companies to a meet a part of their emission reduction targets under the Kyoto Protocol. The mechanism seeks to stimulate both sustainable development and emission reductions, while giving industrialised countries some flexibility in how they meet their emission reduction targets. Types of permissible CDM projects include renewable energy (wind, biomass, solar or hydro), switching to alternate fuels, oil and gas development, schemes for waste management, energy efficiency and agriculture, as well as carbon sequestration in forests. The CDM framework is constantly evolving. As understanding of the nature and causes of GHG emissions has improved and their implications for climate change policy have grown, complex legal, financial and technical issues have arisen. It is likely that a structure similar to the current CDM will persist post-2012, with broader applicability, deeper emissions reduction targets and a longer commitment period. See "CERs" and http://cdm.unfccc.int/index.html.

CEIHD Centre for Entrepreneurship in International Health and Development.
www.ceihd.org/

CERs Certified Emission Reductions. A CER is a unit of carbon credit issued according to Article 12 of the Kyoto Protocol and is equal to 1 tCO_2eq. CERs are generated by projects under the Clean Development Mechanism and are issued by the CDM Executive Board after approval by designated national authorities in the host countries, rigorous inspection and validation of the relevant developing-country projects by UNFCCC-accredited "designated operational entities" (DOEs), and the registration of the projects by the Board. Alongside emissions allowances, CERs are an additional instrument in emissions trading to help companies in industrialised countries offset their exceeded allowances. In April 2009, the face-value of a CER was around US$15, well down on 2008 prices. The CDM is anticipated to produce CERs amounting to more than 2.7 billion tCO_2eq by 2012, the end of the first commitment period of the Kyoto Protocol.

CGIAR Consultative Group on International Agricultural Research, an alliance of 64 governments, private foundations, and international and regional organisations. www.ifpri.org

COP Conference of the Parties, the principal regular meeting of the representatives of member-states to the UN conventions.

CRIC The UNCCD's Committee for the Review of the Implementation of the Convention.

DLDD Drought, land degradation and desertification.

ETS The European Union Greenhouse Gas Emission Trading Scheme (EU ETS) commenced operation in January 2005 as the largest multi-country, multi-sector GHG emission trading scheme world-wide.
http://ec.europa.eu/environment/climat/emission/index_en.htm

FAO Food and Agriculture Organization of the United Nations.
www.fao.org

GEF The Washington, DC-based Global Environment Facility, established in 1991, helps developing countries fund projects and programs that protect the global environment. The GEF is the financial mechanism for the Convention on Biological Diversity (CBD), the UNCCD, the Stockholm Convention on Persistent Organic Pollutants and the UNFCCC. GEF manages three special funds under the UNFCCC – the Least Developed Countries Fund, the Special Climate Change Fund and the Adaptation Fund.
www.gefweb.org

GHG Greenhouse gas(es). Anthropogenic, or man-made GHG, include CO_2 (carbon dioxide), CH_4 (methane) and N_2O (nitrous oxide) from agriculture, land-use change and deforestation as well as the burning of fossil and bio-energy fuels, chlorofluorocarbon compounds (CFCs) used as refrigerants, propellants and cleaning compounds and other fluorinated gases with high global-warming potential.

Gold Standard
A Swiss-based, non-profit foundation supported by some 60 NGOs that offers accreditation for "premium" emissions reduction projects and a "high-quality carbon credit label". The Gold Standard can apply to CDM/JI projects as well as the voluntary market.
www.cdmgoldstandard.org/

GM The Global Mechanism is a subsidiary body of the United Nations Convention to Combat Desertification (UNCCD). The GM provides advisory services to UNCCD Parties to increase the volume of funds and the variety of financing options for SLM.
www.global-mechanism.org

GTZ Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH, the German Technical Cooperation.
www.gtz.de/en

GWP Global Warming Potential. A measure of how much a given mass of greenhouse gas is estimated to contribute to global warming.

IFAD International Fund for Agricultural Development.
www.ifad.org

JI Along with the Clean Development Mechanism (CDM), the Joint Implementation is a project-based mechanism of the Kyoto Protocol that feeds the carbon market. JI enables industrialised countries to carry out joint implementation projects with other developed countries, while the CDM involves industrialised-country investment in sustainable development projects that reduce emissions in developing countries.
http://ji.unfccc.int/index.html

Kyoto Protocol (KP)
The protocol, the key part of the UN Framework Convention on Climate Change, was adopted in 1997 by Parties to the UNFCCC in Kyoto, Japan, and entered into force on February 16, 2005. It sets legally binding targets on industrialised countries (known as Annex I Parties) for cutting the emissions of six anthropogenic greenhouse gases, or GHG – mostly CO_2 caused by burning coal, oil and other hydrocarbon fuels as well as by deforestation and land degradation – by an aggregate 5.2% from 1990 levels. Developing countries (known as Non-Annex I Parties), including China, Brazil and India, are exempt from its conditions. Controversially, the USA did not ratify the Kyoto Protocol. The GHG abatement measures specified by Kyoto were launched in 2008 and are to be completed by 2012, the year when the Protocol expires and is to be replaced by a new global agreement. See "CDM" and also http://unfccc.int/kyoto_protocol/items/2830.php

IFPRI The International Food Policy Research Institute, one of 15 centres supported by CGIAR.
www.ifpri.org

IPCC Intergovernmental Panel on Climate Change.
www.ipcc.ch/

KfW Entwicklungsbank
KfW Entwicklungsbank finances investments and accompanying consulting services in developing countries. It carries out its work on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ).
www.kfw-entwicklungsbank.de/EN_Home/KfW_Entwicklungsbank/index.jsp

LDCF Least-Developed Countries Fund. Established by the UNFCCC in 2001 and managed by the GEF, the LDCF addresses the special needs of 48 least-developed countries (LDCs) that are especially vulnerable to climate change, including help with preparing and implementing National Adaptation Programmes of Action (NAPAs) to identify urgent and immediate adaptation needs.
http://www.gefweb.org/interior_right.aspx?id=194

LULUCF
First defined in 1996, Land Use, Land-Use Change and Forestry activities offered cost-effective ways of offsetting emissions, either by increasing the removals of greenhouse gases from the atmosphere (e.g. by planting trees or sustainably managing forests), or by reducing emissions (e.g. by curbing deforestation). Under Article 3.3 of the Kyoto Protocol, greenhouse gas removals and emissions through afforestation and reforestation undertaken since 1990 count towards meeting the Kyoto Protocol's emission targets. Post-Kyoto, land use is expected to qualify more broadly for emission reduction schemes. Increasingly, the LULUCF acronym is giving way to AFOLU, for Agriculture, Forestry and Land Use, a similar definition with amendments introduced by the IPCC in 2006.

Marrakesh Accords
The series of agreements signed in Morocco in 2001, after years of difficult negotiation, on the rules of how to meet the targets set by the Kyoto Protocol.

NAPA National Adaptation Programme of Action under the UNFCCC for Least Developed Countries (LDCs). See also "LDCF" and
http://unfccc.int/national_reports/napa/items/2719.php

NGO Non-Governmental Organisation.

ODA Official Development Assistance. ODA flows comprise the financial contributions of donor government agencies, in the form of loans and grants, to developing countries ("bilateral ODA") and to multilateral development institutions like the African Development Bank, the European Union or the World Bank.

Post-Kyoto regime or post-2012 regime
The unofficial name for the system of international agreements and arrangements, currently being negotiated, that is intended to take effect as a successor to the Kyoto Protocol when the first KP commitment period expires in 2012.

REDD Reduced Emissions from Deforestation and (forest) Degradation. It is hoped this UNFCCC mechanism, currently in negotiation, will spur a new flow of funds to preserve rainforests and possibly savannahs, shrublands and other low forest-cover areas. To date, however, one of the REDD's biggest challenges has been to establish a baseline for deforestation rates: before countries can be compensated for "avoided deforestation", they must first reliably demonstrate how much forest the country has been losing on a historical basis. Until recently, this data has been hard to establish and verify. A new remote sensing satellite known as ALOS (Advanced Land Observation Satellite) now promises to improve remote assessment. ALOS is said to be able to penetrate cloud cover and even measure the amount of carbon sequestered in a particular tract of land or forest.

SCCF The UNFCCC's Special Climate Change Fund, set up in 2001 and managed by the GEF, was established to finance adaptation activities, programmes and measures as a top priority, including technology transfer, energy, transport, industry, agriculture, forestry, and waste management, and to help developing countries diversify their economies away from over-reliance on fossil fuel production and consumption.
www.gefweb.org/interior_right.aspx?id=192

SCPMP The Smallholder Crop Production and Marketing Project of the African Development Bank.
www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/MW-2006-053-EN-ADF-BD-WP-MALAWI-AR-SMALLHOLDER-CROP-PRODUCTION-AND-MARKETING-PROJECT.PDF

Silvopastoral systems (SPS)
Areas of farmland where livestock can graze between widely-spaced trees. These viable land-use systems can enhance forest productivity as well as generate income from newly-afforested areas in the short term. Herbaceous pasture for the production of fodder within silvopastoral systems can be optimised through judicious selection of grazing species and use of fertiliser.

SLM Sustainable Land Management.

SNV Stichting Nederlandse Vrijwilligers, the Netherlands Development Organisation.
www.snvworld.org/

SPA Strategic Priority on Adaptation (SPA), a part of the GEF Trust Fund. The SPA's objective is to reduce vulnerability and to increase adaptive capacity to the adverse effects of climate change in the focal areas in which the GEF works.
www.gefweb.org/projects/focal_areas/climate/documents/GEF_Support_for_Adaptation_to_Climate_Change.pdf

Stern report
Known formally as the Stern Review on the Economics of Climate Change, this comprehensive review was led by Lord Stern, the former World Bank Chief Economist and, at the time, Head of the Government Economic Service of the United Kingdom. It was published on October 30, 2006.
www.occ.gov.uk/activities/stern.htm

tCO_2eq Metric tonne of CO_2 equivalent, a unit of measurement used to assess the global warming potential of GHG other than CO_2.

UNDP United Nations Development Programme.
www.undp.org

UNEP United Nations Environment Programme.
www.unep.org

UNCCD
United Nations Convention to Combat Desertification.
www.unccd.int

UNFCCC
United Nations Framework Convention on Climate Change.
www.unfccc.int

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