REDD – finance mechanism of the future?

"Reducing Emissions from Deforestation and Degradation" (REDD) is the new buzzword in international forest conservation. Expectations are running high – matched only by the associated challenges. Developing and donor countries are still discussing the unresolved issues at international level, but Brazil and Indonesia have pressed ahead and launched the world's first national REDD programmes.

In the time it takes you to read this article, the Earth will lose an area of forest the size of 390 football pitches: 160 of them are in Brazil and 100 in Indonesia. Deforestation and Land Use, Land-Use Change and Forestry (LULUCF) are responsible for around one-fifth of the world's annual emissions of greenhouse gases (Stern 2006). Despite some progress made in recent years, deforestation is continuing at a very high level world-wide.

A glance at national emissions matrices and international emissions tables clearly reveals that in Brazil and Indonesia in particular, climate protection is closely linked with forest conservation (Table, page 22). After the US and China, these two countries are the world's largest greenhouse gas emitters – mainly due to LULUCF.

Why include REDD on the agenda?

Despite its climate relevance, deforestation has largely been excluded from the international climate process until now, primarily because of methodological problems (see UNFCCC Decision 1/CP.6). That means that a project to replace a coal-fired power station with a wind farm in Indonesia or Brazil has a chance of receiving financial support from the international community – but a scheme to protect the forest from logging will go away empty-handed. Both these initiatives can reduce greenhouse gas emissions, but only one of them would be rewarded. This inequality hits tropical-forest-rich developing countries especially hard.

So in 2005, a group of tropical-forest-rich countries, headed by Costa Rica and Papua New Guinea, launched a proposal to put REDD on the international climate agenda. The basic idea is this: the industrialised countries will pay the developing countries compensation to reduce deforestation, which in turn will cut greenhouse gas emissions.

High expectations, numerous challenges

There is now a general consensus that REDD has a role to play in the international climate regime post-2012, when the Kyoto Protocol expires. And expectations are running high: REDD could in future become a

Forest conservation has an extremely high impact on climate protection, a fact that is not yet being considered by the Kyoto Protocol.

Photo: J. Boethling

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LULUCF in Indonesia and Brazil

Country	National emissions as a proportion of global emissions	Ranking in global emissions table	Share of LULUCF in national emissions
Indonesia	7.4 %	3	84 %
Brazil	5.4 %	4	62 %

Source: WRI 2005, Dutschke / Pistorius 2008

key source of funding for tropical forest conservation world-wide (Chomitz 2007).

But the devil is in the detail. Methodological issues are at the heart of the debate, along with financing, distribution of revenue, and linkage with other objectives such as the preservation of biodiversity. Forests with high levels of biological diversity have the greatest potential to successfully adapt to the climate change which is already taking place – but they are not necessarily the forests with the largest carbon storage capacity and thus the greatest climate protection impact. So should they be eligible for funding under a mechanism whose aim is to protect human communities from climate change? The jury is still out.

At the same time, various practical solutions are being trialled in a number of countries. Here, the key focus of attention is on schemes in Indonesia and Brazil, which – as explained above – is where most deforestation is taking place (see Boxes). These countries are not waiting for a consensus to be achieved at international level, but are already taking action themselves – with all the imponderables that national initiatives entail.

The baseline – the measure of all things

In order to measure reductions in deforestation, it is necessary to establish a hypothetical comparative scenario. What would the likely deforestation trend be without REDD? Here, three basic variants are conceivable (Dutschke / Wolf 2007):

1. Brazil has opted for a **historical baseline** for its national approach. The mean rate of deforestation over the last ten years is the benchmark against which to measure the Brazilian Government's efforts. Deforestation falling below this historical mean will trigger compensation payments for Brazil. The baseline will be reviewed every five years.
2. Indonesia is applying a **two-stage baseline** which distinguishes between "planned" deforestation, shown in Indonesia's development plans, and "unplanned deforestation" resulting from illegal logging and forest fires. This approach is similar to a **modelled baseline** which projects future deforestation trends. Computer simulations can be used to model the relevant baselines.
3. And finally, the **normative baseline** is established at political level. It could be of particular relevance to countries which have already adopted successful measures to combat deforestation. The compensation payable to these countries can be justified on grounds of fairness or by the need to avoid "perverse incentives" (which would actually encourage deforestation at first in order to qualify for compensation mechanisms).

Leakage: avoidance, not displacement

The leakage phenomenon describes the displacement of deforestation from those areas in which active forest conservation is being pursued to unprotected neighbouring areas. This merely shifts deforestation elsewhere, instead of avoiding it altogether. Leakage is a typical problem in project-based approaches which have locally limited scope.

Both Brazil and Indonesia are circumventing this problem by launching national REDD programmes. Here, it is the aggregated deforestation rate in the country as a whole that counts. This takes account of displacement effects on a nation-wide basis, but does not (yet) take into consideration the effects of displacement into other vegetation zones or countries.

CO_2 storage capacity and the deforestation rate

Satellite-based monitoring can supply reliable information about annual deforestation trends. One example is Brazil's PRODES system, which has been producing sound annual deforestation data since 1988. PRODES will supply the evidential basis for annual deforestation (reductions) under Brazil's national REDD scheme.

Brazil's Fundo Amazônia – rainforest diplomas

With the Fundo Amazônia (Amazon Fund), which was set up by the Brazilian Development Bank (BNDES) in August 2008, the Brazilian Government is investing in a voluntary fund-based solution. It is a simple approach: if the current rate of deforestation in the Amazon falls below the historical baseline, international and private donors can compensate Brazil by paying into the Fund. The revenue will be used to finance new projects to combat deforestation. In return, donors will receive "diplomas" which, however, are non-tradable and do not imply carbon credits to offset. The BNDES manages the fund, selects the projects to be financed, and is in charge of contracting an independent audit to check the correct application of the funds. The Fund is supervised by a Steering Committee, consisting of representatives of the entities of the federal government, the governments of the states and representatives of civil society. A scientific committee validates the deforestation rates established by the Government.

It is not enough to know how much forest area is being lost on an annual basis, however. In order to calculate CO_2 emissions, it is important to know how much CO_2 is stored in a hectare of tropical forest. This varies according to vegetation type and amounts to between 50 and 400 tC/ha for primary Amazon forest (Saatchi et al. 2007). For simplicity's sake, Brazil applies a conservative estimate of the amount of CO_2 stored by the forest, i.e. a flat figure of 100 tC/ha. Indonesia has opted for an average value of 140 tC/ha (Gibbs et al. 2007). Inventory methods are currently being developed further in Indonesia; determining the amount of CO_2 stored in Indonesia's vast tropical peatlands – the largest source of the country's CO_2 emissions – poses a particular challenge in this context.

Financing: a fund-based approach vs. the market

Two financing options for REDD are currently being discussed by the international community: performance-based funds, i.e. ex-post payments into a fund, based on deforestation actually avoided; and emissions reduction trading, similar to the approach already adopted within the Kyoto framework.

The first of these, i.e. the fund-based mechanism, is the option preferred by Brazil: this means that if Brazil reduces the rate of deforestation in the Amazon, international and private donors will then (and only then) pay contributions to Brazil's Fundo Amazônia (Amazon Fund). A tonne of CO_2 saved through avoided deforestation in the Amazon is worth five US-dollars. In return, the contributors receive certificates, known as "diplomas", in recognition of their contribution to combating deforestation. Unlike carbon credits, however, these certificates are non-tradable and cannot be used as an offset mechanism.

Indonesia: draft of a Government Regulation on REDD implementation

In July 2008, Indonesia's Ministry of Forestry unveiled the initial draft of a Government Regulation on REDD implementation. According to the draft, all managers of forest areas may, on the recommendation of the district governments, implement REDD activities, provided that such activities are in compliance with national REDD criteria, especially protection of forests with a high level of biodiversity, empowerment of communities in areas surrounding the forests, and good forest governance. Contentious issues have yet to be resolved through a national consultation process, including the plan that 30 percent of the total of REDD credits will be deposited at the national level, the strong focus on the UNFCCC, and the development of an efficient and transparent distribution mechanism for certificates and revenue from them. Work is also continuing on a Government Regulation for the licensing of marketing of environmental services. Harmonisation of the two drafts has yet to be completed.

Legal timber trading is state controlled in Brazil. State officers assess logged timber.

Photo: gtz-Brazil

Zusammenfassung

Seit 2005 wird die Reduktion von Treibhausgasemissionen durch vermiedene Entwaldung (REDD) unter der Klimarahmenkonvention verhandelt. Vor allem Tropenwaldländer sollen von Industrieländern finanziell kompensiert werden, wenn sie ihre Wälder erhalten und damit zum Klimaschutz beitragen. Brasilien und Indonesien als wichtige Waldländer mit hohen CO_2-Emissionen aus Entwaldung haben eigene Wege eingeschlagen, einen solchen Kompensations-Mechanismus zu etablieren. Dabei behandeln sie viele methodische Probleme, für die es international noch keine einheitliche Lösung gibt.

Resumen

Desde 2005, la Convención Marco de las Naciones Unidas sobre el Cambio Climático ha permitido que se negocie la reducción de las emisiones de gases tipo invernadero mediante el mecanismo de la "Reducción de emisiones derivadas de la deforestación" (REDD por su sigla en inglés). Se trata de que los países industrializados otorguen una compensación financiera en especial a los países que cuentan con bosques tropicales, con el fin de que estos últimos preserven dichos bosques y contribuyan así a la protección del clima. Brasil e Indonesia, dos países con grandes superficies de bosques y altas emisiones de CO_2 provenientes de la deforestación, han iniciado caminos propios para establecer un mecanismo de compensación de este tipo. En tal sentido, acometen muchos problemas metodológicos para los cuales todavía no existen soluciones uniformes a nivel internacional.

Indonesia, on the other hand, has opted for a market-based solution. Landowners wishing to reduce deforestation can request the state to issue them with tradable REDD certificates. At present, it is unclear whether these certificates will be traded via the international emissions trading schemes or whether they will be obtained through a national intermediate fund.

Who gets which piece of the pie?

The underlying causes of deforestation vary from region to region, and can include a lack of clarity in land tenure, poor implementation by the state, and powerful economic incentives for landowners to engage in deforestation. So who should receive a share of the REDD compensation payments and thus be given an incentive to change their behaviour? Should a share go to the state, in order to improve the implementation of existing law? To what extent should landowners be rewarded for recognising the forest's intrinsic value? Should a share go to indigenous peoples and local communities, who in many cases are already conserving their lands irrespective of REDD?

With the causes of deforestation being so complex, Brazil and Indonesia have yet to arrive at a firm judgement on how to distribute the fund revenue. Many interest groups fear that with forest conservation thus being state-imposed, they will lose their access to land which they have traditionally managed or farmed and to which they could claim title. REDD could thus reinforce unlawful ownership rights – a situation which is making many people see "RED" (Griffiths 2007).

Outlook

The list of challenges associated with REDD goes on, and includes key topical issues such as the permanence of emissions reductions and the inclusion of degradation, both of which go beyond the scope of this article. The parties to the United Nations Framework Convention on Climate Change (UNFCCC) are working towards clarifying all the unresolved issues by 2009 – but they still have a long way to go.

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