



DIIS REPORT
CLIMATE CHANGE

DIIS REPORT

REDUCING EMISSIONS FROM DEFORESTATION AND DEGRADATION (REDD)

AN OVERVIEW OF RISKS AND
OPPORTUNITIES FOR THE POOR

Mikkel Funder

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Abbreviations

| | |
|------------------|---|
| CBF | Community Based Forestry |
| CDM | Clean Development Mechanism |
| DRC | Democratic Republic of Congo |
| FCPC | Forest Carbon Partnership Facility |
| GDP | Gross Domestic Product |
| GEF | Global Environment Facility |
| GHG | Greenhouse Gasses |
| GNI | Gross National Income |
| IPCC | International Panel on Climate Change |
| LDC | Least Developed Country (see Annex F for complete list) |
| MDG | Millennium Development Goals |
| PES | Payment for Ecosystem Services |
| PFM | Participatory Forest Management |
| REDD | Reduced Emissions from Deforestation and Degradation |
| SFM | Sustainable Forest Management |
| SME | Small and Medium Enterprise |
| tCO ₂ | Tonnes of CO ₂ |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UNREDD | UN facility for addressing REDD |

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Executive Summary

Deforestation and land use change is estimated to account for 18% of total greenhouse gas emissions (GHG). Current debates over forestry and climate change mitigation center on the development of a global scheme for Reduced Emissions from Deforestation and Degradation (REDD). Under such a scheme, countries would be financially compensated for reducing emissions from deforestation and degradation through an international forest carbon market and/or fund. This Report provides an overview of the risks and opportunities associated with REDD for the rural poor in developing countries, with a particular emphasis on practical forestry options under REDD in the Least Developed Countries (LDCs).

REDD could potentially direct very significant funds towards developing countries. Approximately 65% of the mitigation potential in forestry is located in the tropics. While much of this is found in countries such as Brazil and Indonesia, REDD may also have significant implications for LDCs. While only 5% of total global GHG emissions come from LDCs, they are responsible for approximately 20% of global emissions from land use change and forestry. Within LDCs, deforestation and land use change are responsible for 74% of all emissions. Land use change and forestry are thus the only genuinely significant sources of emissions from LDCs on the global scale, and are by far the major source of emissions within LDCs.

For the rural poor in LDCs, REDD has significant potential but also significant risks. Worldwide, some 240 million live in the forest areas of developing countries, of whom 60 million are Indigenous Peoples. Both wet and dry forests are vital assets for a significant proportion of the rural poor in LDCs, providing food, energy, health services (natural medicines) and shelter. Some 17 million people work in the formal forestry sector of developing countries, with a further 30 million employed in the informal sector.

Under a “best-case scenario”, REDD could provide positive links to poverty alleviation through: (i) the development of benefit-sharing arrangements under REDD, in which the financial benefits from carbon credits are devolved to local stakeholders; (ii) the positive effects of improved and more efficient forest management policies and practices, such as improved forest products, income opportunities and ecosystem services; and (iii) the use of REDD as a platform for improving local rights and providing more accountable forest governance mechanisms.

By contrast, a “worst-case” scenario might produce a series of mutually reinforcing negative effects, including: (i) alienation and loss of forest resource rights for forest dependent communities, as a result of public and private intrusion on financially valuable forest areas; (ii) increasing land and food costs, as current agricultural expansion is halted, forest areas are value-added and/or REDD-supported efforts such as Afforestation and Reforestation drive up land prices; and (iii) reduced local access to forest products and incomes as a result of hardline protection measures and scaled-down forest production.

The extent to which REDD outcomes end up in the “best” or “worst” case scenario (or somewhere in between) depends on a number of issues, not all of which lie within REDD itself. Nevertheless, important steps can be taken in how REDD is developed and designed, and the principles upon which this is based. The report discusses these various options in terms of three important aspects of a pro-poor REDD mechanism: (i) the design options for a possible international forest carbon funding mechanism; (ii) the practical mitigation options that may be accommodated within REDD; and (iii) the national policy and governance efforts required.

The *international and national architecture* of REDD will have significant implications for whether or not REDD ends up as a mechanism that supports or counters poverty alleviation. Key issues include the modalities of the international financing mechanism, the levels at which carbon accounting should take place, the reference scenarios used, the national distribution mechanisms of REDD funds and the question of who carries the burdens of risk and liability. The design of these factors will have direct implications for the role of the poorest in REDD, and it is thus a mistake to assume that the poverty implications of REDD are irrelevant to the larger international negotiations and can be “sorted” at the local level.

In terms of the *practical mitigation options* under REDD, the debate has so far tended to focus on the scope for *Avoided* Deforestation and Degradation, with rather less attention being paid to the option for also including the positive *enhancement* of forests through Afforestation/Reforestation (which is currently taking place under the CDM), as well as Forest Restoration and Rehabilitation. With an exclusive emphasis on Avoided Deforestation and Degradation, there is a major risk that funds will go mainly to large-scale commercial operators and governments, thereby creating a possible polarization between climate and poverty concerns. By contrast, the inclusion of Forest Restoration and Afforestation/Reforestation activities (the

so-called “REDD Plus” approach) would considerably expand the scope for REDD poverty-reduction effects. This includes the dry forests of Africa and elsewhere, which have so far received little attention in REDD debates. A REDD Plus approach would also create greater opportunities for linking to the ongoing experiences and efforts in Participatory Forest Management (PFM), which otherwise risk being pushed aside after decades of development. In particular, PFM approaches that support sustained use and management by communities would help fuse forest conservation and poverty alleviation at local levels by enhancing food security and securing local forest-access rights.

Taking a REDD Plus approach does, however, also require attention to a range of possible pitfalls. These range from unintended perverse incentives and negative environmental effects (e.g. unsustainable afforestation and reforestation measures) to known problems associated with participatory forest management (e.g. elite capture or failure to account for external pressures on forest resources). The report discusses and assesses the relative strengths and weaknesses of the different practical options under REDD, and scores these using spider diagrams.

Finally the report discusses the *national-level policies and institutional measures* required to ensure an effective and pro-poor REDD approach in LDCs. These include the need to move beyond the simple implementation measures for a REDD mechanism towards a more fundamental review and revision of existing forest-sector policies and governance frameworks, and towards taking a cross-sectoral approach to addressing the causes of deforestation.

On this basis, it is recommended that development cooperation should:

- Expand the scope of current REDD preparatory activities, to increase the emphasis on addressing the actual drivers of deforestation through cross-sectoral policy reform.
- Build pro-poor needs and safeguards into national forest-related policies and plans. This includes ensuring local forest-user rights within and beyond REDD, and supporting representation of the poor in forest-governance mechanisms.
- Promote sustainable community-led forest use in the REDD context. This involves support to the “REDD Plus” approach that rewards positive change in forest area and carbon density. This will also help support synergies between adaptation and mitigation, in which forestry can play an important role.

- Build on what's already there. The REDD debate has tended to take on a life of its own, but it is crucial to build on (rather than duplicate or push aside) ongoing initiatives in, for example, participatory forest management
- As far as possible, provide support that will benefit pro-poor forest management *even* if a global REDD mechanism does not come to fruition or fails for other reasons, such as supporting forest use and forest management that is ultimately self-sustaining.
- Support pro-poor approaches in international REDD negotiations, for example, the incorporation of social standards avoids perverse economic incentives and enhances LDC prospects in REDD.

I. Introduction

Forestry has recently become one of the high-profile sectors in the debate on reducing emissions in developing countries. Forest degradation and deforestation is assessed to contribute some 18% of global GHG emissions, most of which comes from developing countries. Current debates over forestry and climate change mitigation center on the development of a global scheme for Reduced Emissions from Deforestation and Degradation (REDD) under a post-2012 UNFCCC regime when the current Kyoto protocol expires in 2012. Through the development of international mechanisms and possible associated carbon-credit schemes, it is envisaged that developing countries may be financially compensated for reducing emissions through national measures to reduce deforestation and degradation. However, the exact nature of such a mechanism is still under debate, and a range of different proposals is currently on the table. The nature of REDD is thus one of the issues up for negotiation at the upcoming COP15 in Copenhagen in December 2009.

At first sight, the development of REDD mechanisms seem to promise win-win situations that may contribute significantly to emission reductions, while also ensuring the transfer of potentially quite substantial sums to developing countries. However, in the effort to address and negotiate the complex modalities for REDD at the international scale, it is sometimes forgotten that international carbon-credit systems are not in themselves enough to address the root causes of deforestation and degradation: the intersection between forestry, livelihoods and economic development at the national and local levels contains a number of challenges that must be addressed in order for REDD mechanisms to support both forest conservation *and* local livelihoods.

This Report provides an overview of the risks and opportunities associated with REDD for the rural poor in developing countries, with a particular emphasis on the practical forestry options under REDD in LDCs. The Report summarizes and discusses the existing available literature on the subject, and has benefited from the inputs from a variety of resource persons in Denmark and abroad. The current pace and extent of the debate on REDD means that the various issues discussed here are under continuous development, and the Report should therefore be seen as providing a general overview rather than a detailed discussion of all the issues.

2. Forests and livelihoods

Worldwide, some 240 million live in the forest areas of developing countries, of whom 60 million are Indigenous Peoples. Both wet and dry forests are vital assets for a significant proportion of the rural poor in LDCs, providing food (wild vegetables, fruit and meat), energy (woodfuels), health services (natural medicines) and shelter (construction materials). To this can be added the crucial eco-system functions provided through forests, including the natural filtration and storage of water resources, of importance both to rural and urban communities.

Even in relatively remote rural areas, forest users comprise a much wider spectrum of stakeholders than what are sometimes perceived simply as “people living in the forest”. This may include groups not normally associated with forests, such as pastoralists who exploit grazing and water resources in dry forests. Forest dependency is also dynamic in both time and space. Households that are not normally dependent on forest resources may turn temporarily to forest resources as a coping strategy in times of crisis, while, for instance, macroeconomic change or conflict may create geographical movements of people towards new forest areas. For the poorest, the role of forests for risk minimization, diversification and coping can be particularly important. Often the poorest have fewer options for investing in new or alternative practices (e.g. intensified farming), and may be unable to draw on “banked” resources in times of crisis (e.g. selling a cow). In such situations, forest resources can provide crucial alternatives. This is also very much the case in relation to climate change: studies from Ethiopia and Zambia suggest that forest resources are among the first that rural households turn to as part of their coping and adaptation strategies in the face of climate change.

The significance of the forest sector as a labour opportunity is not always recognized. Some 17 million people work in the formal forestry sector in developing countries, with a further 30 million employed in the informal sector (the latter ranging from, for example, small-scale commercial charcoal production to pit-sawing and locally/community owned timber production). Estimates suggest that 13-35% of all small-scale enterprises in rural areas are forest-related (Robledo et al. 2008). Forest SMEs also play an important role in national economic terms and often dominate domestic forest markets in developing countries, whereas large-scale enterprises focus on exports. In poverty terms, SMEs tend to show good results in spreading funds locally, although the initial investment costs may keep out the poorest (Mayers 2007).

3. Deforestation trends and drivers

Most deforestation assessments, including those of the IPCC, are based on the FAO 2005 World Forest Resources Assessment, which assessed forest change from 1990-2005.¹ These showed a slight drop in the rate of deforestation for the period 2000-2005, but nevertheless indicated a global annual loss of 7.3 million ha during this period.²

Table 1: Forest area, forest loss and current carbon stocks

| Region | Forest area (mill. ha) | Annual change (mill. ha/yr) | | Carbon stock in living biomass (MtCO ₂) | | | Growing stock in 2005 million m ³ |
|---------------------------|------------------------|-----------------------------|-----------|---|-----------|-----------|--|
| | | 1990-2000 | 2000-2005 | 1990 | 2000 | 2005 | |
| | 2005 | | | | | | |
| Africa | 635,412 | -4.4 | -4.0 | 241,267 | 228,067 | 222,933 | 64,957 |
| Asia | 571,577 | -0.8 | 1.0 | 150,700 | 130,533 | 119,533 | 47,111 |
| Europe ^{a)} | 1001,394 | 0.9 | 0.7 | 154,000 | 158,033 | 160,967 | 107,264 |
| North and Central America | 705,849 | -0.3 | -0.3 | 150,333 | 153,633 | 155,467 | 78,582 |
| Oceania | 206,254 | -0.4 | -0.4 | 42,533 | 41,800 | 41,800 | 7,361 |
| South America | 831,540 | -3.8 | -4.3 | 358,233 | 345,400 | 335,500 | 128,944 |
| World | 3,952,026 | -8.9 | -7.3 | 1,097,067 | 1,057,467 | 1,036,200 | 434,219 |

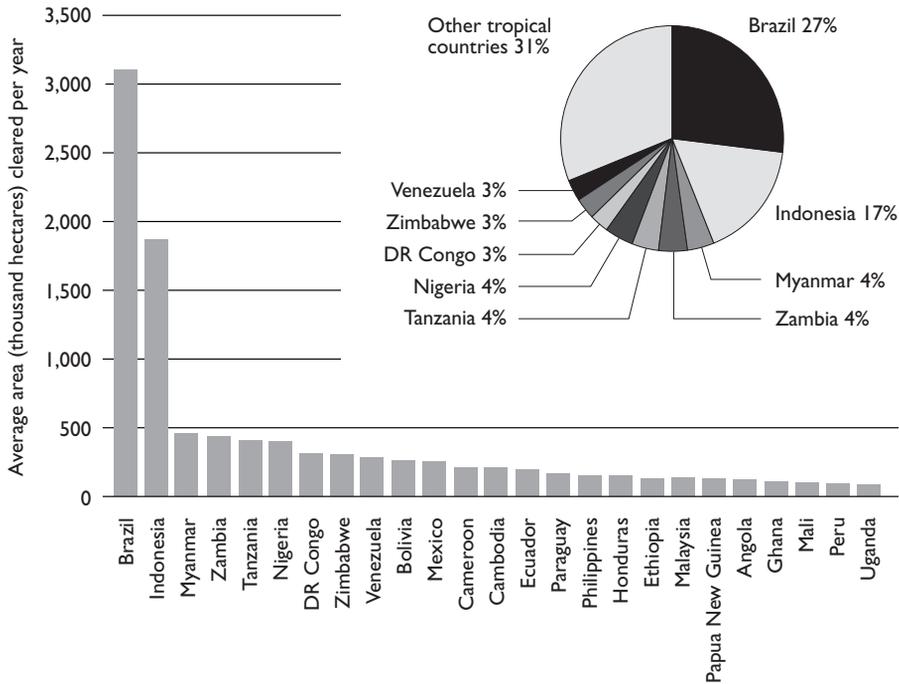
a) Including all of the Russian Federation

Source: IPCC Third Assessment Report 2007: 545 (using FAO 2005 data)

1 The FAO figures apply a definition of **forest** as areas of “land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover more than 10% or trees able to reach these thresholds in situ.” **Deforestation** is defined as “the conversion of forest to another land use or the long-term reduction of the tree canopy cover below the minimum 10 percent threshold”. Forest **degradation** is defined as “Changes within the forest which negatively affect the structure or function of the stand or site, and thereby lower the capacity to supply products and/or services [...hence...] In most cases, degradation does not show as a decrease in the area of woody vegetation but rather as a gradual reduction of biomass, changes in species” (FAO 2005).

2 Note that some controversy surrounds the FAO definitions and data. See Rainforest Foundation (2005) for a critical review of the FAO assessment. See IPCC (2000) and Schoene et al. (2007) for listings and a discussion of the various competing definitions. For an alternative assessment of deforestation trends, see Achard et al. (2002).

Figure 1: Tropical deforestation rates 2000-2005 for selected countries



Source: Mongabay.com (accessed 23/02 2009). This draws on data from FAO Global Forest Resources Assessment, 2005

The causes of ongoing global deforestation and degradation are commonly attributed to a number of factors, including in particular agricultural expansion, wood extraction (including logging) and infrastructure development.

Agricultural expansion

At the global level, agricultural expansion leading to tropical deforestation includes large-scale commercial activities such as palm oil production, soy production and cattle ranching, all to a large extent driven by demand in the North. While these activities have been particularly prominent in countries such as Brazil and Indonesia, they are now increasingly expanding into lower income countries with suitable and available land. For instance, 3 million hectares in the Democratic Republic of Congo (DRC) were recently signed over to a Chinese company for oil palm plantations (La Porte 2007). Ironically, biofuel plantations are a rapidly growing cause

of agricultural expansion into forest areas (Danielsen et al. 2009a). Smallholder agricultural expansion is a further cause of deforestation, although the extent of this remains controversial, especially in terms of the role of cyclical cultivation systems. In an oft-quoted meta-analysis of 152 sub-national case studies, Geist and Lambin (2002) concluded that, while shifting cultivation certainly played a role, it had been exaggerated as the sole direct driver of deforestation. Their study further questioned the role of population *growth* as a driver of deforestation, except in terms of population dynamics, such as in-migration in connection with forest colonization (see also Kanninen et al. 2007). Instead, they pointed to the need to consider such factors alongside several other local causes of deforestation, which are in turn related to wider indirect economic and institutional drivers.

Table 2: Causes of deforestation in 152 case studies³

| | All cases (<i>n</i> =152) | | | Asia (<i>n</i> =55) | | Africa (<i>n</i> =19) | | Latin America (<i>n</i> =78) | |
|--------------------------|-------------------------------|------------|------------|-------------------------|------------|---------------------------|------------|-------------------------------------|------------|
| | abs | rel (%) | cum (%) | abs | rel (%) | abs | rel (%) | abs | rel (%) |
| Single-factor causation | | | | | | | | | |
| Agricultural expansion | 6 | 4 | 4 | 2 | 4 | 1 | 5 | 3 | 4 |
| Wood extraction | 2 | 1 | 5 | 0 | - | 2 | 11 | 0 | - |
| Infrastructure expansion | 1 | 1 | 6 | 0 | - | 0 | - | 1 | 1 |
| Other ^a | 0 | - | - | 0 | - | 0 | - | 0 | - |
| Two-factor causation | | | | | | | | | |
| Agro-wood ^b | 22 | 15 | 20 | 12 | 22 | 2 | 11 | 8 | 10 |
| Agro-infra ^c | 30 | 20 | 40 | 3 | 6 | 2 | 11 | 25 | 32 |
| Agro-other | 5 | 3 | 43 | 1 | 2 | 3 | 16 | 1 | 1 |
| Wood-infra | 1 | 1 | 44 | 0 | - | 0 | - | 1 | 1 |
| Wood-other | 1 | 1 | 45 | 0 | - | 1 | 6 | 0 | - |
| Three-factor causation | | | | | | | | | |
| Agro-wood-infra | 38 | 25 | 70 | 21 | 38 | 2 | 11 | 15 | 19 |
| Agro-wood-other | 6 | 4 | 74 | 4 | 7 | 1 | 5 | 1 | 1 |
| Agro-infra-other | 8 | 5 | 79 | 0 | - | 0 | - | 8 | 10 |
| Wood-infra-other | 1 | 1 | 80 | 0 | - | 0 | - | 1 | 1 |

continues

3 The table shows the number of times a given local cause of deforestation was identified in 152 case studies. For instance, shifting cultivation was identified as a contributing (but not sole) cause of deforestation in 63 of 152 case studies across Africa, Asia and Latin America. This does not, however, account for possible biases against or for shifting cultivation among the original authors of the case studies (e.g. as a result of incorrect myths about such practices). This is a general weakness of the study.

| | All cases (<i>n</i> =152) | | | Asia (<i>n</i> =55) | | Africa (<i>n</i> =19) | | Latin America (<i>n</i> =78) | |
|-----------------------|-------------------------------|------------|------------|-------------------------|------------|---------------------------|------------|-------------------------------------|------------|
| | abs | rel (%) | cum (%) | abs | rel (%) | abs | rel (%) | abs | rel (%) |
| Four-factor causation | | | | | | | | | |
| All | 31 | 20 | 100 | 12 | 22 | 5 | 26 | 14 | 18 |
| | | | | | | | | | |
| Total | 152 | 100 | - | 55 | 100 | 19 | 100 | 78 | 100 |

Note: abs, absolute number; rel, relative percentages; cum, cumulative percentages. Relative percentages may not total 100 because of rounding.

a. "Other" refers to predisposing environmental factors, such as land characteristics and social as well as biophysical trigger events.

b. Agro, agricultural expansion; wood, wood extraction.

c. Infra, infrastructure-expansion.

Source: Geist and Lambin 2002: 145

Wood extraction

Logging as a driver in deforestation refers to clear-cut logging, but also to selective logging as a cause of degradation that eventually leads to actual deforestation. This may be caused by both legal and illegal practices. World Bank data from 2006 found that illegal logging constituted as much as 80-90% of total forest production in some countries, and further indicated that illegal logging cuts across tropical countries, regardless of levels of economic development (World Bank 2006). As Skutsch (2008a) has pointed out, illegal logging may still be "governed" in the sense that it takes place as a result of rent-seeking and a lack of accountability and transparency. Logging is not therefore necessarily the result of an absence of governance, but of poor governance. By extension, logging as a cause of deforestation tends to be particularly prevalent in areas where regulations and forest tenure are not enforced, and where local forest rights are not secure (Kanninen et al. 2007).

Infrastructure development

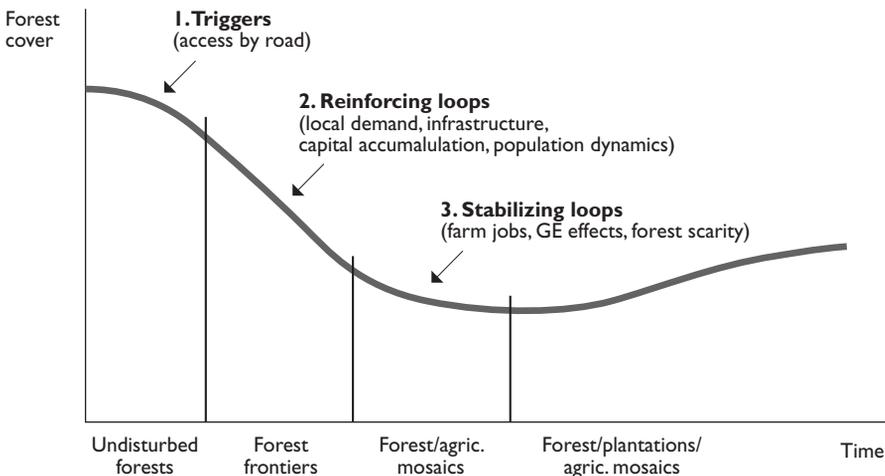
Infrastructure development is a further major but often underestimated cause of deforestation and degradation, often in association with logging and agricultural development. Apart from the effects that mining, hydropower construction and road development may have in terms of direct land-clearing, infrastructure development typically serves as a trigger that provides access and opportunities for other forms of deforestation and degradation.

These various proximate causes of deforestation are thus characterized by being:

- *interrelated*, that is, there is rarely one single cause of deforestation, but rather multiple inter-related factors
- both *intra-sectoral and inter-sectoral*, that is, developments in, for example, the agricultural, road or energy sectors may impact on challenges within the forest sector specifically
- both *direct and indirect*, that is, immediate drivers such as those mentioned here are tied into wider national policies, markets and institutions

The latter point is particularly significant: behind these immediate and proximate causes of deforestation lie broader national and global mechanisms, including consumer patterns in the North and their associated demands for agricultural and wood products.

Figure 2: Typical forest transition dynamics over time



Source: A. Angelsen, "Forest Cover Change in Space and Time", World Bank Policy Research Paper No. 4147, reproduced in Kanninen et al. (2007)

Deforestation dynamics also vary considerably from country to country and from region to region, as well as over time. The forest transition model (Figure 2) illustrates the typical changes that forest areas have historically undergone and which

different countries and in-country regions may find themselves in.⁴ A number of LDCs (and non-LDCs such as Brazil and Indonesia) currently have large areas located in the early stages of this model (either undisturbed or as forest frontiers, e.g. the Congo Basin countries, Zambia, Tanzania, Nepal and Myanmar).

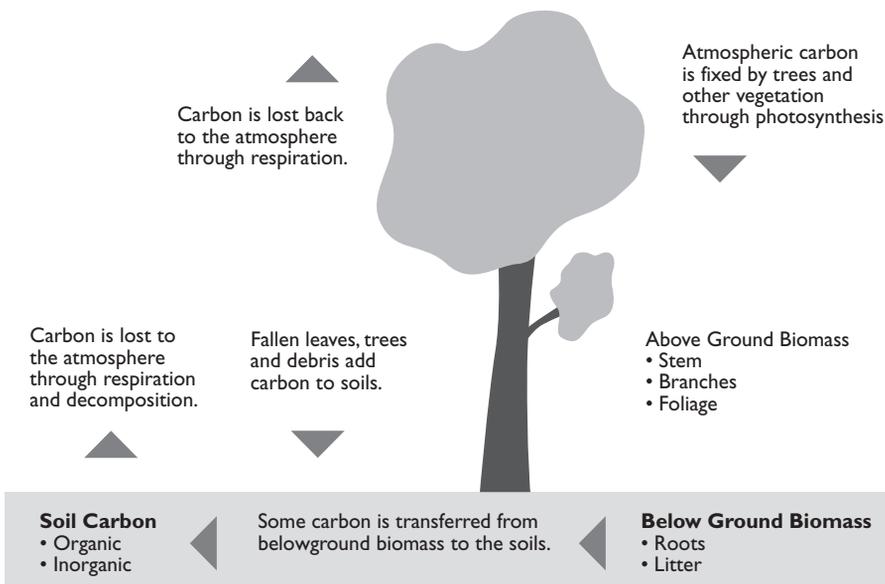
Few LDCs are found in the latter stages in which deforestation rates have leveled off (as in India) or where forest-cover is increasing as a result of successful conservation/restoration (as in Costa Rica) or afforestation measures (as in Vietnam and China). Variation clearly also occurs both within countries, and between wet and dry forests. For instance, while logging by external operators is a frequent driver of *deforestation* in wet forests, dryland forests in, for example, Africa are to a large extent subject to forest *degradation* caused by unsustainable fuelwood collection, charcoal production etc., and where local populations are more directly involved – although in both cases larger scale macroeconomic and policy-frameworks also play a key role (Skutsch 2008a).

4 Importantly, the forest transition model should not be seen as a necessary process that all countries necessarily need to go through. On the contrary, it shows the effects of a development process in which sustainable forest management has not been effectively applied.

4. Deforestation and climate change

A total of 283 gigatonnes of carbon were estimated to be stored in the global forest biomass in 2005. The total amount of carbon stored in forest biomass, deadwood, soils and litter amounts to almost 50% more than the carbon in the atmosphere (FAO 2005). A recent study suggested that 18% of emissions from fossil fuels are currently recaptured by primary forests (Lewis et al 2009).

Figure 3: The natural cycle of forest carbon pools



Source: Global Canopy Programme: “The little REDD Book” 2008: 18

Emissions of CO₂ from deforestation are primarily caused by the burning and clearing of tropical forests and their vegetation, as well as the burning of forest fuelwood and the decomposition of trees harvested for lumber. Globally, land use change and forestry are estimated to account for 18.2 % of GHG emissions.⁵ This amounts to 1.6 billion tonnes of carbon emissions annually – more than the global emissions from the transport sector, and almost equivalent to the total emissions from US

⁵ GHG emissions from deforestation and degradation are mainly carbon dioxide and, to a much lesser extent, carbon monoxide and methane.

fossil fuel use. Deforestation and degradation have contributed some 90% of total global emissions from land use change since 1950 (Robledo et al. 2008).

Table 3: Global land use change emissions (% of total global GHG emissions)

| | |
|----------------------------------|-------------|
| Deforestation | 18.3 |
| Afforestation | -1.5 |
| Reforestation | -0.5 |
| Harvest/Management | 2.5 |
| Other forms of lands use change | -0.6 |
| Net total land use change | 18.2 |

Source: WRI Climate Analysis Indicators Tool <http://cait.wri.org/figures.php> (accessed 12 March, 2009)

Following centuries of deforestation and degradation in North America and Europe, these regions have now become net sinks for emissions. According to the IPCC (2007), 65% of the mitigation potential in the global forest sector is located in the tropics.

While total emissions from LDCs for all sectors constitute only 5% of global GHG emissions, LDCs are responsible for 20% of the global emissions that stem from land use change and forestry.⁶ Land use change and forestry is thus the only truly significant source of emissions from LDCs in both global terms and within LDCs, where 74.4% of emissions derive from this source.⁷

The ongoing effects of climate change are, however, expected to impact on forest ecosystems in terms of both the physical metabolism of forests and the functions they provide. For instance, changes in atmospheric carbon content, as well as in rainfall and temperatures, may lead to a number of changes in terms of biomass production, composition of forest species etc. (Robledo et al. 2008). At the same time, the impacts of climate change on forest functions and ecosystems may be substantial. This includes possibly decreased scope for timber production as a result of, for example, increasing pests, changing species composition and changing quality of timber products. Likewise, changes in the quantity and composition of non-forest timber products, biodiversity and wildlife, as well as water flows etc., may considerably affect the livelihoods of forest-dependent communities (op. cit.). This may be further compounded by the possibly adverse effects of other climate change impacts

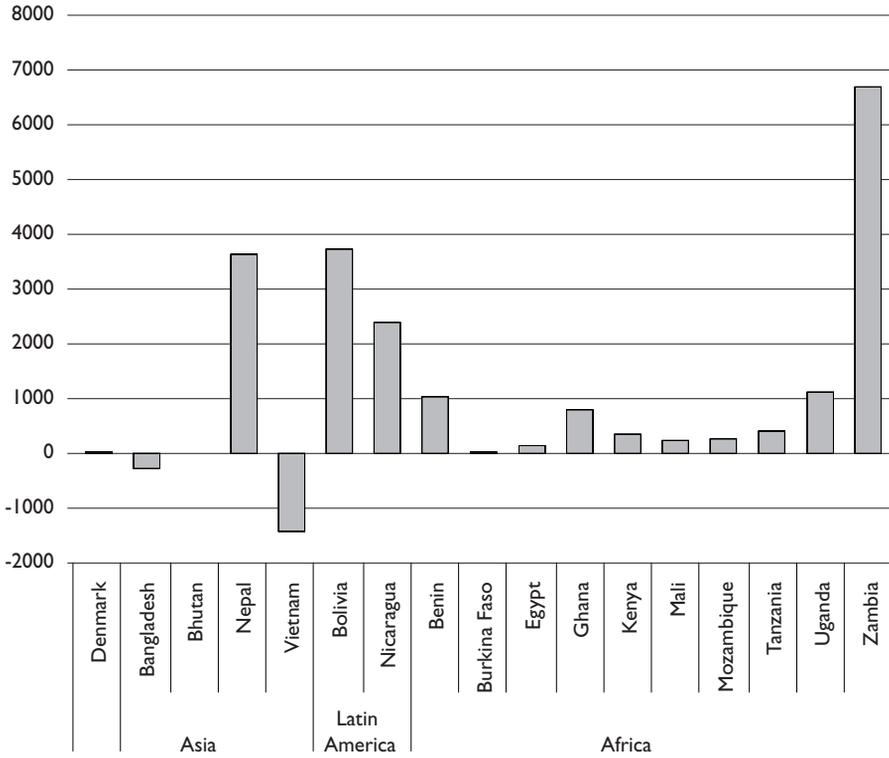
⁶ LDCs are estimated to emit an equivalent of 1,543.8 Mt CO₂ through land use change and forestry, while global emissions from land use change and forestry are estimated to amount to 7,618.6 MtCO₂.

⁷ WRI Climate Analysis Indicators Tool, <http://cait.wri.org/figures.php> (accessed 12 March, 2009)

on agricultural and forest-dependent communities, who may be forced into such activities as land clearing or forest degradation.

The forest sector thus illustrates well the dynamics between the adaptation and mitigation aspects of climate change, not least in terms of poverty alleviation. This relationship is, however, also the strength of the sector: it is precisely because forests serve as significant elements in the coping strategies of local communities, that there are distinct options for supporting a pro-poor forest management process that can help build adaptation and resilience, while at the same time addressing mitigation.

Figure 4: GHG emissions from land use change and forestry in selected Danida partner countries, cumulative for the period 1950-2000



Source: WRI Earthtrends database (accessed 22 March 2009)⁸

8 Notes: (i) Data from Bhutan not available. (ii) The data include “emissions from living and dead vegetation disturbed at the time of clearing or harvest, emissions from wood products (including fuelwood), and emissions from the oxidation of soil organic matter in the years following initial cultivation. Those ecosystems that are not directly affected by human activities such as agriculture and forestry are not included in these estimated sources and sinks” (from Technical Notes to the WRI Earth trends database). (iii) The unusually high land use change emissions from Zambia should be treated with some caution. While usually attributed to the extensive deforestation and degradation in that country, they do not compare well with countries that are believed to have experienced similar forest trends, such as Tanzania. Some experts consulted believe that the Zambian data may be a result of errors in emissions reporting.

5. Overall REDD benefits and risks for the poor

REDD is in many ways a double-edged sword: while it has significant potential for supporting poverty alleviation, it also carries with it the distinct possibility that it may worsen poverty for rural communities. Table 4 provides a detailed discussion of the main potential positive and negative impacts of REDD on the poor. Under a “best-case scenario”, positive REDD–poverty linkages arise from three main factors, namely:

1. The positive impacts of potential benefit-sharing arrangements under REDD, in which the financial benefits from carbon credits are devolved to local stakeholders as Payment for Environmental Services (PES), which can thus be used for communal and/or individual investment.
2. The positive effects of improved and more efficient forest-management policies and practices, which will be provided by governments and/or projects in return for carbon funding. If effective, this can provide important contributions to local livelihoods through improved forest products, income opportunities, ecosystem services etc. In supporting this, REDD can also help provide significant options for climate change adaptation.
3. The positive effects on local rights and governance mechanisms that may derive from the process of establishing and negotiating institutional mechanisms and rights regimes related to REDD. This may include increased formal recognition of local forest rights and more accountable and inclusive forest governance mechanisms.

By contrast, a “worst-case” scenario might produce a series of mutually re-enforcing negative effects, which can be summarized as:

1. Alienation and loss of forest resource rights for forest-dependent communities, as a result of public and private intrusion on financially valuable forest areas. This may happen either directly, through actual take-overs of forest areas, or indirectly through, for example, hard-line state crackdowns on existing forest use by local communities.
2. Increasing land and food costs, as current agricultural expansion is halted, forest areas are value-added, and/or REDD-supported efforts such as Afforestation and Reforestation drive up land prices. This may be further affected by the paral-

lel development of biofuel production schemes that drive up land values further and/or take over smallholder land with associated food price increases.

3. Reduced subsistence and adaptation options. Reduced access to forest products as a result of the above processes will affect local livelihoods in terms of shelter, food and health. Likewise, income opportunities may decline as a result of aborted or scaled-down forest-sector production. Adaptation and coping strategies based on forest resource use will also decline, posing the risk of a potential “double squeeze” in areas where climate change leads to reduced agricultural potential.

These potentially negative effects are substantial and in direct contrast to collective international development goals such as the MDGs. For the poorest, they would be catastrophic. The option of simply dismissing any form of REDD is therefore tempting. Nevertheless, REDD also provides potential new opportunities for a more pro-poor and inclusive forest governance agenda that may not otherwise occur (Rights & Resources 2008). Indeed, the risks of *not* engaging in REDD seem high, given the possibly complete disregard for poverty and rights issues that might develop from such an approach.

The extent to which REDD outcomes end up in either the “best” or “worst” case scenario (or somewhere in between) depends on a number of issues, not all of which lie within REDD itself (e.g. effects of world economic fluctuations, the extent to which ongoing climate change affects existing forests, or the ways in which local actors respond to REDD in the broader contexts of other local and national development processes). Nevertheless, important steps can be taken in how REDD is developed and designed, and the principles upon which this is based. The following section discusses this in terms of three important aspects of a pro-poor REDD mechanism: (i) the design options for a possible international forest carbon funding mechanism; (ii) the practical mitigation options that may be accommodated within REDD and (iii) the national policy and governance efforts required. Lastly, some main areas for possible donor support are identified.

Table 4: Potential overall REDD benefits and risks for the poor

| Selected key poverty factors | Potential positive REDD impacts on poverty | Potential Negative REDD impacts on poverty |
|------------------------------|---|---|
| Basic needs | <ul style="list-style-type: none"> • Financial benefits from carbon credits devolved to communities and used for schools, clinics etc • More effective and inclusive forest management policies sustain/ improve availability of forest products for food, energy, health and shelter | <ul style="list-style-type: none"> • Reduced access to forest resources for food, shelter etc if local rights and forest use ignored • Increasing food prices and land costs as result of: <ul style="list-style-type: none"> - reduced scope for agricultural expansion - unsound approaches to A/R under REDD - expansion of forest-related biofuels (eg Jatropha) under REDD |
| Incomes | <ul style="list-style-type: none"> • Financial benefits from carbon credits applied for communal income generating activities or distributed among households • More effective and inclusive forest management policies improve new on-farm incomes (eg agroforestry), off-farm incomes (labour in processing), and small enterprise development (eg sustainable charcoal, pit-sawing) | <ul style="list-style-type: none"> • Lost incomes from SMEs and other small-scale trading/barter from forest products if use rights are not taken into account • Lost jobs in forest sector industries • Reduced available incomes if food prices increase • Increased socioeconomic stratification in communities if benefits are unevenly distributed |
| Production systems | <ul style="list-style-type: none"> • Financial benefits from carbon credits ploughed back into local farming and other forms of production • Forest product use sustained or improved (incl non timber forest products etc) • New/alternative forest production options (agroforestry etc) • More effective forest management policies enhance ecosystem services (water, soils, grazing, etc) • Adaptation, risk minimization and coping options increase as result of enhanced forest quantity and quality | <ul style="list-style-type: none"> • Loss of access to forest resources that provide input to/supplement/are central to local production systems • Risk of hard-line clampdown on cyclical farming systems, incl. those that are sustainable • Lack of tenure security • Ill-advised shifts to A/R or lead to environmental degradation with effects on agric. outputs |
| Rights | <ul style="list-style-type: none"> • Currently informal forest user rights could become legally recognized/solidified as part of process to define carbon rights and benefits sharing modalities | <ul style="list-style-type: none"> • Existing local forest rights overruled or undermined by national governments and/ or private investors |
| Governance | <ul style="list-style-type: none"> • Requirements for transparent carbon crediting and payment flows leads to more transparent forest governance institutions • More efficient and inclusive forest policy frameworks improve accountability and participation in community forest governance | <ul style="list-style-type: none"> • Corruption increases as “big money” flows into poor economies • Conflicts over forest resources increase, both on a local/national and a local/local scale • Government retrenchment in otherwise inclusive/devolved schemes as forest resource revenues increase |

6. Poverty implications of international REDD design options

Assessing the potential impacts of REDD on poverty is complicated by the fact that the architecture of a potential international REDD scheme remains under debate, with most key elements still up for discussion, and only limited piloting having yet been undertaken on the ground. Whether or not REDD contributes positively or negatively to poverty is thus to a large extent dependent on the outcome of the various international design options currently under debate. The issues involved are numerous, but include:⁹

International financing mechanism

Schmidt (2008) identifies four types of mechanism for financing and distributing REDD funds currently under debate (see also Vianna 2009):

- Incorporation of REDD trading under the existing emissions trading schemes (post-2012), where non-annex 1 countries would have full access to trade directly with buyers.
- Hybrid approaches, which involve a market-linked scheme, but significantly also include the establishment of a global facility that regulates and mediates carbon trading. Credits would be sold at higher levels than the actual opportunity costs, providing a surplus to cover upfront costs for national capacity development, policy reforms etc. in the seller countries.
- Fund-based mechanisms akin to those currently piloted under World Bank-led FCPF or the UN-REDD funds, which include support for REDD preparedness work.
- Basket approaches, which combine the above financing approaches gradually and according to required needs.

In poverty terms, concerns have been expressed that purely market-driven REDD financing may emphasize cost effectiveness over poverty implications. It may also disfavour countries that are not currently equipped to compete on equal terms in an international REDD market – including in particular LCDs where, for example,

⁹ For more detail on these options and issues, see Peskett et al. 2008, Schmidt 2008, Angelsen 2008, Robledo et al. 2008).

institutional capacities to monitor and mitigate risks tend to be low.¹⁰ The option of a market-linked mediating facility could help address this problem to a significant extent, as it would allow for coverage of some upfront investments for LDCs and could incorporate social concerns to a larger degree. The option of combining public and private financing in such funds has been suggested (Schmidt 2008).

To this can be added the option of a continuing voluntary market, as currently exists parallel to the CDM. While voluntary markets have generated significantly less funding than the regulated market, buyers in them have tended to give considerably more attention to sustainability issues. However, as discussed in Annex B, the voluntary markets are by no means unproblematic and would require stronger social and environmental standards than are often the case. From a poverty perspective, the existence of supportive donor funds and voluntary markets therefore seem important to retain and develop further, regardless of the outfall of current debates on the type of financing mechanism to be established under REDD.

The scale issue

The issue of scale has been the subject of much debate in relation to the development of accounting and payment mechanisms. The discussion here essentially concerns whether accounting and payment under REDD should take place:

- at the subnational/project level (i.e. at individual sites, as currently done under the CDM)
- at the national level (i.e. based on national reference levels and with payments coming to national governments)
- or through a “nested” approach whereby countries gradually scale up from project to national level, but may continue to account both at project and national level simultaneously (Angelsen et al. 2008).

The project approach is frequently assessed as having the most immediate effects on poverty (but on a smaller scale), as it allows for more direct targeting of poor groups and areas, and tends to be more directly inclusive of local stakeholders. This approach also allows countries with little current capacity to fulfil national REDD accounting and monitoring requirements (including all LDCs) to benefit from

¹⁰ There are also concerns that incorporating REDD within an unregulated market trading scheme would lead to a flooding of the market (given the substantial credits available from Brazil and Indonesia) with substantial price falls on carbon credits and negative effects in other sectors (Schmidt 2008).

REDD, since the required monitoring is done at the individual sites with project funding. Likewise, project-level accounting and payments are less likely to deter buyers who would be wary of the effectiveness of national government effectiveness, which is also an issue for LDCs. On the other hand, national-level approaches provide far better options for addressing the broader drivers behind deforestation and degradation, including the necessary sectoral and cross-sectoral policy and governance measures required to create real change in forest trends. In poverty terms, this includes aligning forestry measures with poverty-reduction strategies and other social policies.

A national-level approach would also enhance the potential for addressing the problem of “leakage”, whereby interventions in one forest area merely shift problems to other areas – including previously healthy forest areas that sustain Indigenous Peoples and other forest-dependent communities. Recent work on the nested approach suggests that such a dual-level system will be able to combine the strengths of the other approaches, including a provision for targeting specifically poor groups and areas at local levels while at the same time working at the overall policy level (Angelsen et al. 2008).

Reference Scenarios

The debate on reference scenarios in REDD is highly technical, but its eventual form may have implications for LDCs. The debate essentially addresses the issue that if avoided deforestation and degradation are to be rewarded, this requires a forecast of what would have happened if efforts to curb deforestation and degradation had *not* been set in. Approaches that propose rewarding the inputs to forest management (e.g. rewarding the development and implementation of a new forest policy) are seen by many to be risky in that they do not actually reward the real outcomes. Approaches that propose to reward the actual outputs of forest policies and management are therefore currently favoured by many stakeholders in the debate.

However, a key issue in output-based approaches is the issue of how to account for these actual results. Currently the emphasis of the debate is on using historical references levels, in which, for example, the decline in forest resources for a particular country in the past is projected ahead to draw up a scenario of future trends under, for example, a “business-as-usual scenario”, which is then compared to what has actually been achieved. One issue here is that such an approach may reward countries with high past deforestation rates (e.g. Brazil), while countries with low past defor-

estation rates would not necessarily stand to gain much. This would also have poverty implications, as the former group tends to include many of the middle-income countries, while the latter group tends to include many LDCs, especially in Africa. One option for off-setting such a bias would be to provide differentiated crediting, so that particular groups of countries (e.g. poor countries with low deforestation and high degradation) are given different crediting baselines compared to others (Angelsen ed. 2008). Options for providing different accounting procedures for deforestation and degradation have also been suggested (Skutsch 2008b).

National distribution mechanisms and liability

Related to the scale issue, but of separate concern, is the issue of how national distribution mechanisms for REDD financing might be structured, that is, how funds would in practice be channelled to credit sellers on the ground. Peskett et al. (2008) identify three overall options:

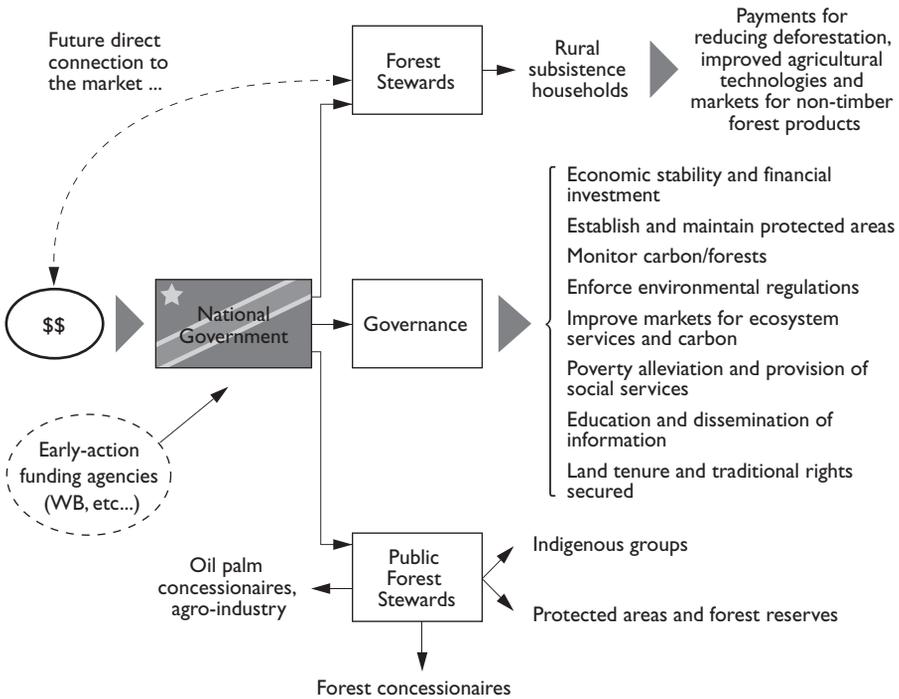
- Financing that is integrated and delivered fully through national budgeting systems at the national and local levels.
- National funds, established with the consent of governments, but partially or fully separate from standard government funding flows (such as the well-known KDP programme in Indonesia or the Community Development Trust Fund in Kenya).
- Independent systems with direct flows of funds between credit buyers and local sellers (akin to the project accounting approach discussed above).

Integration of financing with the national budget system would align well with existing rationales for budget support as the most optimal means for ensuring long-term reform, change and ownership. However, key risks include the possibility that funds would not actually reach local stakeholders, and that the lack of directly visible payments for reduced carbon emissions will act as a disincentive.

One interesting model, which could potentially cut across these three approaches, suggests the establishment of three linked national funds that would channel REDD finances to: (i) national policy and governance reforms and policies; (ii) commercial operators (agricultural industry, logging companies), but also CSOs (e.g. for indigenous peoples); and (iii) rural households as payments for avoided and/or sustainable forest use and management (Figure 5). In poverty terms, such an arrangement would potentially help provide clearer and more transparent earmark-

ing and channelling of funds to rural communities, compared to less segregated or ad hoc distribution mechanisms. It would not, however, entirely overcome the risk of funds not reaching the ground level as a result of mismanagement, corruption and elite capture – a key risk that cuts across all financing modalities and which needs further consideration in REDD debates. Further discussions are also needed on how to ensure a fair allocation of resources between such linked funds, and to what extent it is realistic and feasible to expect forest concessionaires and agro-industry to take on roles as actual “public forest stewards”.

Figure 5: Possible national REDD funding flows



Source: Laporte et al., 2007

Risk and Liability issues

Credit buyers typically seek to minimize risks and thus require assurance that credits can in fact be delivered, or that compensation is available if delivery fails (e.g. in the event of forest fires, conflict or just poor forest-management performance). Liability arrangements are therefore an important aspect of REDD. Options include:

- Replacement of failed credits with new credits from other areas/buffers, or repayment of revenues.
- Ex-post payments, where payments are not produced until credits are in fact delivered (i.e. accounted for).
- Reducing risk through time/space options, including temporary credits which require renewal after a period, or portfolios of credits spread out over high- and low-risk areas.

All these issues have potentially negative impacts on the poorest: the need to replace failed credits may force governments to engage in “quick-fix” solutions such as overriding local rights to ensure that credits can be provided quickly from other forest areas. In instances where the burden of compensation lies with local actors themselves, the risks of not being able to repay revenues or fines are substantial, and legal advice and support will rarely be available to the rural poor. The option of ex-post payments has been proposed from many sides, but will require upfront investments. This has been assessed as a major constraint for LDCs in general, and it may lead to investors avoiding countries where the risks are considered high (Peskett et al. 2008).

Moreover, concerns have been raised that, in their efforts to deliver credits quickly (and thus receive payments faster), governments may resort to overly authoritative approaches and bypass time-consuming inclusion of local stakeholders and their rights. The latter options of time-bound credits (which have been applied in the CDM for afforestation and reforestation projects) and credit portfolios are expected to have reduced appeal to buyers and may therefore lead to reduced REDD incomes for those countries (e.g. LDCs) and stakeholders (e.g. those living in high-risk areas) where such options apply. A satisfactory solution to the risk/liability issue for low-income countries and regions thus still remains to be found. According to some observers, this is one area where donor funds can potentially be particularly useful. For instance, under an ex-post payment regime, donor funds could help provide a means for governments to cover upfront investments in capacity development, community-based approaches etc., thereby helping to ensure that poverty and equity issues are kept onboard.

7. Risks and opportunities in the practical REDD mitigation options

What are the forestry options that may help reduce emissions from the forest sector? Again, this issue is the subject of ongoing discussion, and tends to be closely related to the debate on a REDD mechanism. At the basic level, Angelsen and Admajda (2008) identify four main REDD-related mitigation options, as follows:

| Changes in: | Reduced Negative Change | Enhanced Positive Change |
|-------------------------------------|-------------------------|--|
| Forest area (hectare) | Avoided deforestation | Afforestation and Reforestation (A/R) |
| Carbon density (carbon per hectare) | Avoided degradation | Forest restoration and rehabilitation (carbon stock enhancement) |

Source: Angelsen and Admajda 2008: 15. See also IPCC 2007b, Robledo et al. 2008.

In practical terms, actions under Avoided Deforestation and Avoided Degradation imply payment for *not* undertaking deforestation (e.g. clear-cutting or other forms of land clearing) or degradation (e.g. unsustainable selective logging or other forms of degrading resource extraction). Payments would then cover or exceed the opportunity costs (e.g. the lost revenue from not logging). Actions under A/R and Forest Restoration would involve payment for making an active effort to actually *improve* the extent or quality of forest land. Payments would then contribute to, cover or extend the costs of such efforts.

Proposals for the inclusion and relative role of these four main options have so far led to a variety of different positions on the best possible approach to REDD, which can be summarized as follows:

- A “pure” approach which focuses exclusively on avoided deforestation and which is therefore more correctly termed RED.
- A “mainstream” REDD approach, which also include payments for Avoided Degradation (so far mainly discussed in relation to Reduced Impact Logging and similar approaches related to commercial timber-harvesting in moist forests).
- A “REDD plus” approach that would also include options for Afforestation/Reforestation (A/R) and for forest restoration and associated sustainable forest management, thereby also encompassing options for *increasing* forest area and density (and not just for avoiding further loss).

So far, the REDD debate has tended to focus on the scope for Avoided Deforestation and, to a lesser extent, Avoided Degradation (i.e. the former two approaches). Until recently, far less attention was given to a “REDD plus” solution, that is, to reward also the positive enhancement of carbon density and forest areas through Afforestation/Reforestation (A/F) and Forest Restoration and Rehabilitation. There is, however, an emerging interest among some developing countries to include payments for these latter options under REDD (especially in countries with relatively extensive community forestry schemes, such as Nepal and Tanzania). The wording of the Bali Action Plan and the 2008 Accra talks provided an initial opening for the incorporation of forest restoration and sustainable management activities under REDD, although this remains vague and has met with opposition from countries such as Brazil, which has expressed concerns over the transaction costs of expanding the scope of REDD (Schmidt 2008).

The following will briefly discuss each of the main options under the four categories presented in the table above. In doing so, it must be understood that the different categories will in reality often overlap and contribute to each other. This is particularly the case in relation to carbon density. For instance, management interventions within Forest Restoration would, if successful, usually also imply that Degradation activities were reduced or had been terminated. However, the categories are discussed separately here in order to reflect their potential categorization under REDD and their different pros and cons in relation to poverty issues.

Avoided Deforestation

The “pure” approach to REDD centers strongly on Avoided Deforestation. This was the initial point of departure for the ideas behind REDD, and is the preferred approach of, for example, Brazil. In practice, Avoided Deforestation would entail that governments and/or specific stakeholders refrain from or reduce legalized logging and land-clearing associated with agricultural expansion into forest areas. Governments will also need to address such issues as illegal deforestation and the unintended effects of infrastructure development. This implies a reorientation of national forestry policies away from legalized logging and agricultural expansion, enhancing planning capacity and enforcement, expanding/strengthening protected areas management etc. Under a REDD mechanism, the positive outcomes of such measures (in terms of verifiable avoided or reduced deforestation) would result in financial compensation for governments and/or stakeholders that exceeds or is equivalent to

what would otherwise have been gained (i.e. opportunity costs). As discussed earlier, financing would be through carbon markets or funds.

Key arguments for retaining the main focus on Avoided Deforestation are the lower transaction costs and simpler set-up, compared to schemes that would also include A/R and forest restoration and management. However, an exclusive focus on Avoided Deforestation may make REDD irrelevant for some countries and stakeholders. In many areas, deforestation is not chiefly caused by the rural poor but mainly by legal or illegal external operators. In such situations, direct monetary benefits from REDD would typically be the state and/or the external operators. Forest-dependent communities practising sustainable forest use and management in the area would not necessarily benefit directly. In other areas, where deforestation is a result of land-clearing for agriculture by rural farmers, the direct benefit potential for rural communities may be higher. This, however, requires monetary benefits to be in fact devolved to these local farmers, and that governments are not tempted to impose hardline conservation measures, as has been the case in some pilot sites, where farmers have been evicted from forest areas, as has happened in, for example, a pilot REDD scheme in Uganda. It should also be noted that land conversion by small-scale farmers is far from always being undertaken by the poorest farmers in communities. The poorest may therefore not benefit from direct compensation schemes to local farmers.

Indirect benefits from Avoided Deforestation may therefore in fact be more significant to the rural poor than direct ones. This includes in particular the avoided deterioration of ecosystem services such as water, and the continued access to forest products that might otherwise have been lost to forest-dependent communities as a result of logging schemes etc. The breakdown in socio-cultural resilience and health that often takes place in connection with externally led deforestation and unplanned development may also be reduced in some locations. Finally, under ideal conditions, the substantial financial benefits that may come to national governments from Avoided Deforestation would result in enhanced national budgets for social development. Avoided Deforestation should therefore not be discounted as a potential contribution to local livelihoods or even poverty alleviation. This is, however, very much dependent on continued use rights to forest products and ecosystem services, as well as the political willingness of decision-makers to employ REDD profits for social development.

Avoided Degradation

In climate change terms, forest degradation can be understood as the loss of carbon intensity, but not of actual forest area – for example, a loss of old growth, gradual thinning out, invasion of new species, deterioration of the wider forest ecosystem etc. In the REDD debate, measures to avoid degradation have often focused on controlling selective logging and rewarding approaches such as Reduced Impact Logging (RIL). In humid tropical forests, RIL has been shown to have a fairly significant impact on forest carbon emissions (Putz et al. 2008). Rather less attention has been given in the REDD debate to other major causes of degradation, including small-scale charcoal production, cutting for firewood and local infrastructure/road development. In some regions (such as East Africa) emissions from these activities are estimated to exceed those of actual deforestation (Skutsch 2008a). Avoiding or reducing forest degradation in these situations include existing and emerging options for enhanced wood-fuel efficiency and fuel substitution. Supportive frameworks would include more progressive energy policies that target rural development, and capacity development within, for example, land-use planning and rural infrastructure development.

Because extensive degradation may eventually result in a complete collapse of the forest system and thereby eventually deforestation, issues of definition are a major and as yet unclarified issue within REDD debates on Avoided Degradation (i.e. where the boundary is between Avoided Deforestation and Avoided Degradation). This in turn has led to fears about the methodological complexities of addressing Avoided Degradation as a climate change mitigation measure under REDD.

The limited emphasis on degradation in REDD so far has raised concerns in countries where deforestation is as yet limited, but where forest degradation is a major issue, including a number of African countries. Greater attention to crediting for Avoided Degradation in REDD would provide better options for these countries. This could potentially include LDC countries that also have extensive dry forests (such as the DRC, Zambia and Tanzania), where degradation is currently extensive. Studies of the emissions-reduction potential in dry forests are as yet few, but initial assessments suggest that if low-cost, community management approaches are applied, a good cost–benefit ratio can be achieved in terms of emissions reduction while simultaneously supporting community development (Murdiyarso and Skutsch 2006). If these assessments are corroborated by more in-depth studies, there is scope for engaging a particular group of stakeholders in the REDD process that has so far been overlooked, namely rural dryland farmers in Africa and elsewhere who

depend on forest resources for fuelwood and other purposes, and who often turn to forest resources as an important element in their coping/adaptation strategies.

It must be noted, however, that increased attention and support to Avoided Degradation within REDD or otherwise does not automatically imply pro-poor benefits. Because much of the Avoided Degradation debate in REDD has centered on enhancing selective logging, there is a risk that such measures are given priority, while the more complex and demanding tasks of enhancing rural energy supplies etc. are pushed aside. If this happens, external selective logging companies could end up being the main monetary beneficiaries of Avoided Degradation in some areas. Moreover, even if more locally based practices are addressed under REDD, hard-line stances and misunderstandings about local forest use must be avoided. For instance, if local practices such as shifting cultivation are defined as a degrading activity while not actually being so, they may be subject to sanctions that could have serious implications for poverty.¹¹ Less exclusionary approaches to Avoided Degradation are therefore needed which reward sustainable (local) forest management whenever relevant.

Afforestation and Reforestation (A/R)

A/R involves planting new forest on land that has been deforested (reforestation) or was not previously forested (afforestation). Reforestation differs from Forest Restoration by focussing on entirely deforested land and will frequently (although not necessarily) also involve a greater emphasis on the introduction of exotic valuable species, with less regard for biodiversity values than with Forest Restoration. Commercial plantation forestry has been a widespread form of A/R, typically undertaken by the private sector or governments, occasionally in joint management agreements with communities. Reforestation aimed at soil and watershed protection has typically been initiated by governments with varying degrees of local stakeholder inclusiveness. Studies of the scope for emissions reduction through A/R show some divergence, but tend to agree on the considerable scope of A/R in terms of mitigation benefits (IPCC 2007). Estimates of the potential area available for A/R under the CDM suggest a total of some 5.2 million ha in Africa, Asia and Latin America, of which the majority (4.4 m. ha) was found in Asia (Robledo et al. 2008).

¹¹ The debate on the environmental and emissions impacts of shifting cultivation is a long-standing one. As Peskett et al. (2008) point out, shifting cultivation may in some situations actually support carbon sequestration, as it allows for the regeneration of forest.

A/R is currently the only means of forest-related mitigation for which developing countries can be compensated under the CDM. As mentioned earlier, no experiences have yet been generated in this respect. Experiences from A/R more generally are mixed, particularly in terms of both poverty alleviation and environmental sustainability. In particular, and as is well known, the introduction of non-native foreign species in monoculture plantations may have damaging effects on environmental services and biodiversity. And although plantations can provide important labour opportunities in some areas, incomes from plantation employment may be significantly lower than the potential incomes derived from smallholder farming on the same land. Displacement of local communities from projected plantation areas has also occurred in some countries, just as influxes of migrant labour and small-scale plantation owners from outside have led to social conflict in some areas.

Agroforestry efforts have been shown to help diversify and enhance local agricultural production in smallholder farming in some cases – often in a project initiated context, but also in traditional practices (e.g. “jungle rubber” in Indonesia; see Joshi et al. 2003). It may furthermore provide improved access to woodfuel, fibres and constructions materials. Recently this has also been suggested for livestock farmers, who, under certain conditions, could benefit from mixed livestock and agro-forestry systems, especially if rewarded through PES-related schemes. One constraining factor in both agroforestry and A/R more generally are the initial investment costs for land, labour, inputs and seedlings/stands. Opportunity costs of land are thus a significant factor in whether or not A/R schemes will be taken up by farmers (IPCC 2007b). Some schemes, furthermore, involve a time-lag of up to several decades before profits are generated. A review of seven community-based A/R projects in the Philippines and Indonesia concluded that, while there were good prospects for generating carbon payments from local A/R, the availability of start-up capital was a key determining factor in whether farmers chose to engage in such schemes. Up-front rather than ex-post payments would thus be required to allow farmers to switch to A/R (Murdiyarsa and Skutsch 2006).

The requirement for initial investments in A/R may also have the tendency to benefit already well-off farmers, unless efforts are undertaken to ensure access to inputs and related investments for the poorest. In this respect, the Social Forestry programmes that have been implemented by governments in, for example, India and Nepal in past decades have generated a number of valuable experiences. This includes the distribution of free eucalyptus seedlings to rural households for commercial and non-commercial forest farming, often against the better knowledge of

local communities. This has led to disastrous effects in some areas, where the capacity of vegetation and soils in respect of the retention and gradual release of water have been severely disturbed, and crop yields have declined markedly, with severe effects for the poorest farmers especially (Shiva 1991).

A major source of concern over the inclusion of A/R in REDD is the potential for the creation of perverse incentives: if no differentiation is made between, for example, primary forest and plantations or other forms of A/R, governments and local stakeholders may be tempted to reap the benefits from deforesting primary forests followed by replanting, thereby benefitting twice, but with potentially disastrous effects for forest-dependent peoples and local ecosystems and biodiversity. This situation might be further aggravated if international and/or national mechanisms support the development of forest-based fuel-substitution (e.g. *Jatropha*) or oil-palm plantations. Any inclusion of A/R under REDD must therefore be highly specific regarding the criteria for A/R.

Forest Restoration

Forest Restoration implies the human-induced regeneration of degraded forest areas. It may involve tree planting, but it differs from A/F by seeking to restore the original forest functionality, diversity and quality to some or the full extent. This includes: (i) rehabilitation, in which productivity is restored, but with only a partial or selective restoration of original biodiversity (i.e. new species may be introduced alongside original ones for economic reasons); and (ii) actual restoration, in which the resulting forest is equal or close to the original form and biodiversity. As such, Forest Restoration seeks to provide a positive enhancement of carbon density, as opposed to merely avoiding further degradation. Forest Restoration may be undertaken at individual sites, but it is increasingly associated also with larger-scale landscape restoration approaches.

Forest Restoration has received only limited attention in high-level REDD discussions so far. However, according to initial assessments the scope is notable. Blaser and Robledo (2007) calculate that, if all currently degraded primary and secondary tropical forests areas were restored, an additional 32 Giga tCO₂ could be sequestered, not including the avoided emissions from halting further degradation of these areas. In financial terms, this would represent a net worth of USD 38 billion in carbon credits (at 2007 CDM price levels).

In terms of poverty impacts, Forest Restoration initiatives may in some cases lead to the necessary abandonment of certain land-use practices by local farmers, although the impacts of this are expected to be lower than from plantations under A/R, for example. The time-span from the initiation of Forest Restoration varies, but it represents an investment in time that will impose burdens on the poorest and may not be appreciated by national governments. Forest Restoration measures are nevertheless estimated to have good potential for providing local benefits from forest use, including for the poor, because it allows for straightforward coupling to sustainable forest management approaches in which communities engage in forest restoration practices in exchange for sustained use and rights. Benefits from restored ecosystem services would also be significant, as would eventual co-benefits in terms of biodiversity.

A role for Sustainable Use

The emphasis on the “avoidance” of deforestation and degradation in the REDD debate has tended to underplay the opportunities for the sustainable harvesting of existing forest resources, and REDD debates to date have been unclear on the role of the sustainable use and management of existing forest resources (Schmidt 2008).¹² This has meant that the substantial advances made in the fields of sustainable forest use and management in past decades have been overlooked, including in particular the engagement of local stakeholders in Participatory Forest Management (PFM). The wording of the 2007 Bali statement does provide certain initial openings for rewarding such practices, but is not specific on what this actually implies. This is unfortunate, given the potential for such approaches to contribute in terms of both carbon sequestration and social development. Blaser and Robledo (2007) estimate that the application of sustainable forest use and management principles to existing tropical production forests would provide an additional carbon sequestration of an average 2.2 tC per hectare, at an average cost of USD 4.4 per tC (or USD 1.2 per tCO₂). Specific sequestration and costs vary between regions, with the highest potential being in the wet forests of Southeast Asia and Latin America.

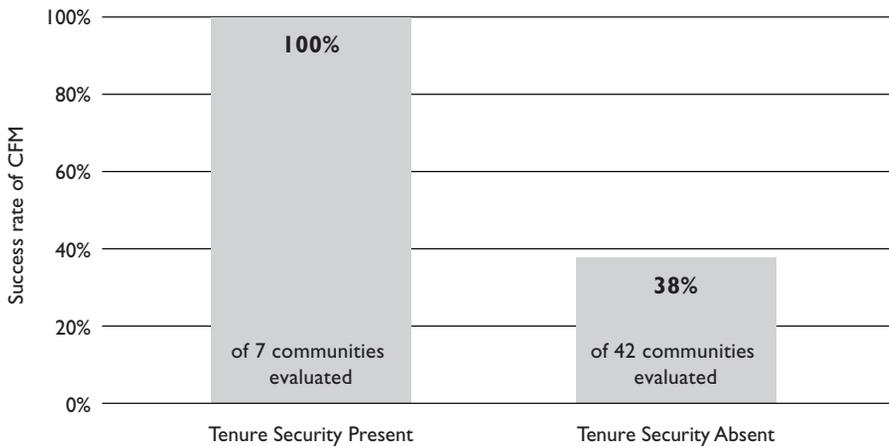
12 Sustainable forest use is frequently discussed through the concept of Sustainable Forest Management (SFM), which differs from a total protection approach by providing for an environmentally sustainable *use* of forest resources in the interests of balancing environmental and social requirements. SFM has been defined in a variety of ways, but it is used here in accordance with the definition adopted by the FAO of SFM as: “the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfill, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems”.

The application of Participatory Forest Management schemes may help turn round degradation trends in rural areas. It is estimated that 14% of the world's forests are now managed under some form of PFM (Banskota 2009), usually either as Joint Forest Management (partnerships between governments and local stakeholders) or Community Based Forestry (CBF), in which communities are given management authority and use rights.¹³ In a review of the carbon-financing potential of 13 CBF projects in East Africa and South/Southeast Asia, Murdiyarso and Skutsch (2006) concluded that such projects can be an effective way of reducing forest *degradation* and increasing sequestration. The study suggests that, while the emissions mitigation potential of CBF might not compare with that for large-scale *Avoided Deforestation* efforts, CBF can produce significant sequestration improvements at a good cost/benefit ratio. Since the economic value of many community forests tends to be relatively low (especially in dryland areas), opportunity costs are also limited (Murdiyarso and Skutsch 2006). If CBF were to be included under a REDD regime, it could be funded at the project scale under the "Nested Approach", possibly counted and rewarded as "Avoided Degradation". However, given the methodological complications, a possibly more appropriate approach would be to classify CBF in connection with Forest Restoration, in which case the benefits would be provided as enhanced carbon intensity (op. cit.).

Apart from the economic benefits, Community Based Forestry also includes a number of other important opportunities: because it is locally anchored, it often provide a better basis for addressing local land-use challenges and needs. Examples may include regulatory practices such as land-use planning and the introduction of "community taxes" on local commercial forest use (which are then used for community development purposes). Likewise, recent advances in community-based monitoring have suggested that such approaches can help provide reliable and low-cost data on local forest and biodiversity trends, which can feed into local- and even national-level forest management (Danielsen et al. 2009b). CBFs can thus often provide more effective regulation of forest use than state-executed forestry, which may be under-staffed and without the necessary "reach" at local levels.

13 This does, however, differ significantly between regions: one recent study assesses that 32% of forest land in Latin America is owned or designated for use by communities and indigenous peoples, with 28% recorded for Asia and the Pacific, but only 2% recorded for Africa, where state ownership accounts for 97.1% of forest land (Rights & Resources 2009). Nepal currently has a staggering 14,000 community-managed forests (Banskota 2009). See Cotula and Mayers 2009 for a review of the tenure situation in relation to REDD in seven rainforest countries.

Figure 6: Success rate of community forest management in 49 studied communities



Source: Pagdee and Daugherty, 2006

Because the focus is on sustainable use, CBF can in principle maintain or increase the availability of and access to forest resources within sustainable limits (Murdiyoso and Skutsch 2006). Apart from the immediate advantages of this in terms of subsistence, shelter and income, CBF ideally also provide enhanced long-term security of tenure over forest resources for the poor. While direct financial compensation from, for example, carbon trading schemes can provide important cash benefits, communities often place even greater emphasis on acquiring secure, long-term access to forest resources in order to maintain food security etc. (see, e.g., Wollenberg et al. 2009). Devolving forest access rights in CBFs is therefore not only a significant benefit of such schemes, but also a requirement if success is to be achieved, as indicated in Figure 6.

Approaches that support CBF in a REDD regime must avoid naïve assumptions that the provision of a few cash benefits to communities can provide quick-fix solutions to forest conservation and development. Approaches need to be designed in tune with the diverse and broad livelihood- and resource-use strategies of local communities. For instance, when calculating opportunity costs, it is crucial to capture all alternative forest uses by communities. This includes shifting cultivation and grazing practices that may be restrained by the development of REDD-induced CBF schemes, and in particular the possible additional costs for the poorest, who

may be involved in “invisible” uses that may be restrained by CBF measures. If this is not done, incentives schemes and tenure arrangements may run counter to local resource use patterns and/or be overruled by community members in their everyday resource use (as documented by, e.g., Casse et al. in the case of Madagascar). Likewise, while CBFs can provide an important opportunity for enhancing the voices of communities vis-à-vis governments and other stakeholders in governance terms, they also require attention to ensure equity in representation and avoid local elite capture of REDD-related benefits and institutions.

Even in such cases, a question remains over those rural communities which are *already* pursuing the sustainable use and management of forest resources (e.g. forest-dependent indigenous peoples). These currently stand to gain few direct benefits from REDD regimes as compensation for their efforts in ensuring sustainable management. That said, the actual financial rewards for existing sustainable use may not always be preferable. Some indigenous groups have argued that they do not want further value-adding of their forest resources for fear of its possible negative effects due to the possible impacts it may have on equity, communal forest-management systems and external intrusion on community lands. In such cases, other “rewards”, such as the provision of de facto forest tenure rights, may be more appropriate, which emphasizes the need to think beyond financial compensation in the wider REDD context.

“REDD Plus” as the most pro-poor approach

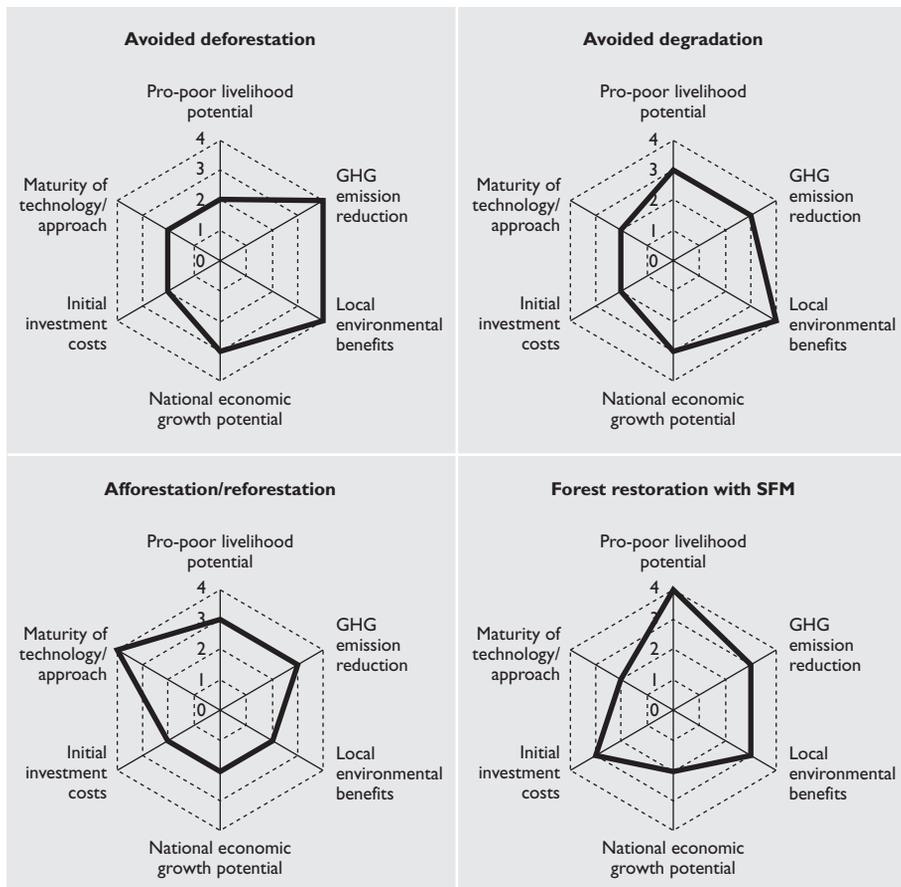
Figure 7 provides an assessment of the strengths and weaknesses of the four potential REDD categories discussed here. The detailed logic behind the scoring can be found in Annex A. The assessment is indicative only. The actual outcome will depend on *how* the various options are applied in practice, and how different LDCs are equipped to take them on. This in turn will depend greatly on the eventual design of REDD at the international and national levels.

In summary, a one-sided emphasis on Avoided Deforestation will potentially provide certain benefits to the poor, but it also has the greatest potential to produce a polarization between climate and poverty goals, and thus carries the greatest risks for the poorest. By reducing or refraining from logging and other land-clearing, large-scale emissions reductions can be made with Avoided Deforestation. However, it is also here that the risks of overriding local rights and resource use are at their greatest, and it is here that many of the poorest will not be entitled to econom-

ic benefits, as they are not involved in logging and land-clearing in the first place. Avoided Degradation contains many of the same risks, although it can more easily be linked to pro-poor activities such as forest restoration and Community Based Forestry. Indeed Skutsch (2008a, 2008b) has suggested that Avoided Degradation should be re-conceptualized in REDD terms to be measured and rewarded as part and parcel of activities promoting Forest Restoration and A/R.

Figure 7: Indicative assessment of the potential strengths and weaknesses of the four practical forestry “options” as currently debated in REDD (see Annex H for detailed assessment)

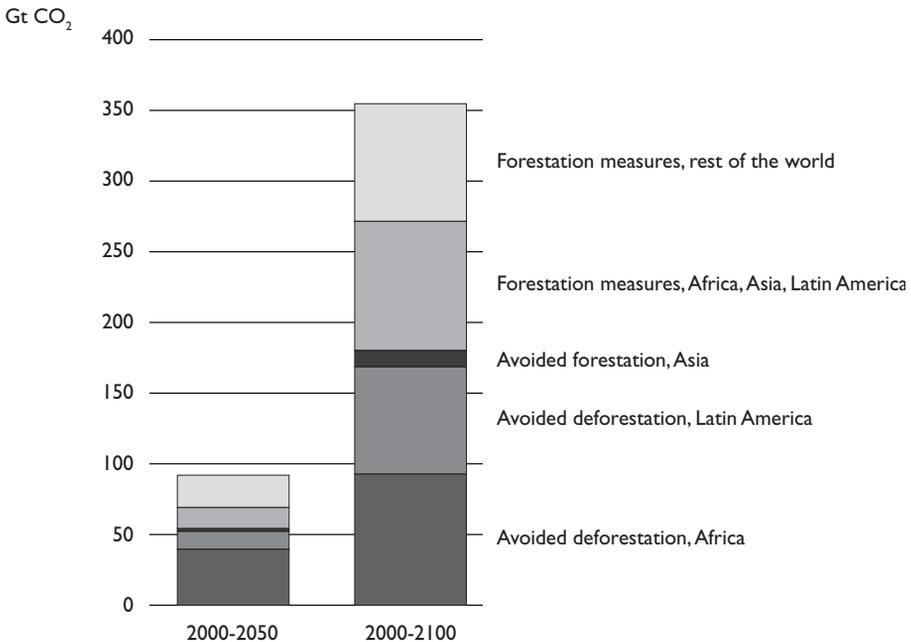
1=Lowest potential, 4=Highest potential (for investment costs, highest cost =1, lowest cost = 4)



The "REDD Plus" option of bringing in Forest Restoration and A/R under a sustainable forest-management regime would potentially expand the scope for REDD poverty-reduction effects (see also Robledo et al. 2008). With an exclusive emphasis on Avoided Deforestation and Degradation, there is a major risk that funds will go mainly to large-scale commercial operators and governments. With an expanded scope that also includes A/R and in particular Forest Restoration activities, the scope for rewarding local communities through their contribution to enhanced forest carbon density or area currently seems more likely.

A REDD Plus option will potentially also provide substantial scope for mitigation in the long term. Figure 8 shows one assessment, although it should be stressed that this would depend on a number of factors, including wider global and national processes related to deforestation. For instance, the effects of a possible positive REDD process in wet forests may produce unintended leakage to dry forests as agricultural expansion and woodfuel use switches to these areas (possibly even supported by national policies).

Figure 8: Assessed cumulative mitigation potential of avoided deforestation and forestation measures in the different regions for 2000-2050 and 2000-2100



Source: IPCC 2007b. Uses carbon price of USD 2.7/tCO₂ + 5% annual price increment.

This does not mean that these approaches contain no risks for the poorest. In particular, including A/R under REDD introduces a risk for the poor and the environment if REDD thereby ends up rewarding, for example, the establishment of oil-palm plantations, with its possible associated concentration of land and severe effects on biodiversity. This has been a major concern of a number of Indigenous People's organizations in relation to REDD Plus, which they also fear will merely lead to a further intrusion on local rights and forest resources.

Adopting a REDD Plus approach therefore does not in itself mean that the issue of local rights and poverty alleviation would be "sorted". Likewise, taking merely a "no-harm" approach to the poor in REDD seems problematic. Apart from the risks that such formal principles would be ignored in practice, no-harm approaches may also de facto disfavour the stakeholders concerned in negotiations, decision-making and conflict resolution in forest governance. If local communities are not involved and perceived as actual stakeholders with real rights in the REDD process, they might easily be sidelined in everyday REDD negotiations and practices. Taking a "no-harm" approach would furthermore deprive local stakeholders of the potential benefits they might obtain under a more inclusive and pro-active pro-poor approach. There is a need, therefore, to employ a REDD Plus approach that recognizes and rewards the positive enhancement of carbon stocks. In this respect, linking forest restoration to Participatory Forest Management (PFM) seems an obvious opportunity. Ensuring sound national frameworks is a further important aspect.

8. Risks and opportunities in national policies and frameworks

So far, much attention in the REDD debate has focussed on the international design options. But what national policies may be implemented to enhance forest conservation and management under REDD, and what are their possible implications for the poorest? Generally speaking, four types of policy work will be required:

Providing frameworks for REDD to function as a nationally legal mechanism in the first place

Because REDD will involve obligations and duties to international communities and international stakeholders, some countries may need to revise their constitutional or legal principles and frameworks on national and local sovereignty and the ownership of national resources. This may be controversial and may require an inclusive process to ensure that this happens according to democratic principles (including, e.g., hearings and forums that allow opponents voice).

Revision/development of forest sector policies and legal frameworks

This will be a key element in actually ensuring Avoided Deforestation and Degradation and supporting Forest Restoration, A/R, and Sustainable Forest Management. If countries and sub-national regions are actually to produce the reduced emissions for which they are paid, it is clear that individual site-specific interventions will be insufficient and ineffective. In some countries, a major re-orientation of national policies and frameworks within forestry will be required. In others, relatively progressive policies may already be in place, but are inefficient and will require greater emphasis, funding and capacity development at national and local levels.

Addressing cross-sectoral drivers

Policy revisions within the forestry sector will be ineffective if they do not address the underlying drivers behind deforestation and degradation. Regardless of how large the payments through REDD mechanisms may be, they will not in themselves address drivers from outside the forestry sector, such as agricultural expansion, infrastructure development and energy constraints. Strategic policy development and

associated capacity-building on these issues are therefore important but also challenging tasks.¹⁴

Building pro-poor needs and safeguards into policies and plans

As discussed above, even under ideal conditions, REDD implementation may threaten the poor in a number of ways. If these issues are not addressed in the policy actions mentioned above, the potential link between emissions reductions, national development and poverty alleviation cannot be met under REDD. Linking to Poverty Reduction Strategies and other poverty alleviation efforts is one aspect of this, but actual integration of pro-poor interests into the various specific policies mentioned above will also be necessary to ensure that it becomes more than a side-issue of REDD.

Addressing pro-poor needs and safeguards in policies and frameworks will amount to more than a few minor adjustments, and may include:

- ***Ensuring the rights of forest-dependent communities to continued or improved access to forest resources.*** This includes building clear definitions of local tenure or use rights into national legislation on forest resources generally and REDD specifically. While in some countries SFM and PFM policies may already partially provide this, further safeguards may be needed in legal frameworks to ensure that central governments are unable to override or even withdraw existing community rights and benefits at the prospect of the substantial economic rewards that may follow from REDD. Apart from actual forest-use rights, a key issue to clarify is the ownership of the actual carbon rights themselves, including whether this is a workable concept in the first place, and if so, how such rights can be established in a pro-poor fashion.
- ***Developing transparent and pro-poor payment schemes.*** Experience from local benefit-schemes in other areas of natural-resource management show that, even where policies and legal frameworks are in place to provide benefits to local levels, a number of risks remain. An apparently simple but often substantial

¹⁴ In connection with this, it has been argued that the scope of REDD should already be expanded now to include not only forestry, but also compensation for agriculture and land-use management more broadly under a single scheme. A proposal arguing for such an approach was put forward by 26 African countries at COP14. Presently such an approach is perhaps overly ambitious, and it also includes a number of further risks for the poor that require careful thought. Nevertheless, forestry could be used as an initial point of departure and as a “test case” a more holistic approach at a later stage. Adopting a cross-sectoral approach to addressing the drivers of deforestation would help prepare the ground for this.

problem is that funds never actually reach communities as a result of corruption, inefficient bureaucracy or reluctance on behalf of government agencies to disburse funds to communities. This also applies to local levels, and includes frequent problems in ensuring a fair distribution of benefits among community members. For instance, pooling community benefits for public utilities such as schools or grinding mills may benefit the majority, but not necessarily the poorest, who may prefer individual payments to households.

- ***Enhancing inclusive forest governance.*** Relatively little attention has been given so far to the governance aspects of REDD at the national and sub-national levels, and how they may affect and be integrated into existing institutional frameworks in this respect. In general it will be important to ensure that existing local institutions for forest governance are not sidelined, especially if they are to serve as de facto platforms for the articulation of community interests. It will also be important that REDD benefit flows to decentralized institutional bodies do not replace existing flows to other sectors.¹⁵ This includes the existing Community Based Organisations that are already functioning under PFM schemes in a number of countries, as well as local government and other devolved institutions established under the various decentralization programmes that are currently being implemented. In any event, support to better representation of the poor in these and other local governance institutions may be needed in order to avoid the potentially significant benefits from REDD leading to increased or sustained exclusion of the poorest from such institutions. It should also be noted that many of the apparently quite practical aspects of REDD also contain significant political elements. For instance, regardless of what monitoring schemes are eventually developed, these may well produce contested results. In such instances, it will be important to ensure that options exist for the poor and others to voice grievances, to have access to legal capacity and to take part in conflict resolution and decision-making.

15 For instance, in the 1990s, local government authorities and communities in Zimbabwe began generating direct benefits from wildlife management under the "CAMPFIRE" programme. The response of the government was to cut back on the fiscal budgets for local road development and school construction, claiming that localities could now fund these on their own.

Table 5: Potential national forest policies in support of REDD, and possible impacts

| Type of policy | Examples | Potential spin-off benefits (i.e. not related to REDD payments) | Risks |
|--|---|--|--|
| Protection and forest law enforcement | <ul style="list-style-type: none"> Extend protected Areas Enforcement | <ul style="list-style-type: none"> Increases national/local revenues (e.g. from fees, fines, tourism) Protects forests resources and ecosystems services | <ul style="list-style-type: none"> Hardline stance on protection may marginalize resource use and rights of the poor |
| Reduce reliance on forest resources/forest land | <ul style="list-style-type: none"> Agricultural intensification Off-farm employment development Alternative Livelihood programmes | <ul style="list-style-type: none"> Increased household incomes from employment, alternative income sources and enhanced agricultural production Enhanced ecosystem services from reduced pressure on forests | <ul style="list-style-type: none"> Alternative Income-generating programmes have a poor track record: often fail to avert users from customary forest uses. New opportunities tend to require resources (investment, time, labour, fertilizers etc.) that the poorest lack. Agricultural intensification may degrade soils if done unsoundly, giving reduced yields |
| Enhancing local rights and governance | <ul style="list-style-type: none"> Community forest benefit schemes Strengthening local rights and tenure security | <ul style="list-style-type: none"> Improved and more inclusive local forest governance Enhance incomes and forest resource access in support of local livelihoods Improved security of rights vis-à-vis external incursions | <ul style="list-style-type: none"> May devolve responsibilities while overall de facto control and rights remain centralized Governments may retrench as community schemes begin to generate substantial funds Elite capture |
| Financial instruments | <ul style="list-style-type: none"> Taxation on land clearances Removal of subsidies | <ul style="list-style-type: none"> Increases budgets available for reallocation to other social and national development purposes | <ul style="list-style-type: none"> Adverse effects on smallholder farming systems and the poorest |
| Market mechanisms | <ul style="list-style-type: none"> Forest carbon markets PES schemes Timber certification | <ul style="list-style-type: none"> Possible local incomes from PES schemes Environmental benefits from reduced externalities | <ul style="list-style-type: none"> Market/PES mechanisms may override social/poverty issues Costs of certification or other lack of ability to compete may affect SMEs negatively |
| Strategic policy development and planning | <ul style="list-style-type: none"> Cross-sectoral policies (agriculture/energy/infrastructure) Spatial and land use planning Linking with poverty reduction strategies Linking with decentralisation policies | <ul style="list-style-type: none"> Increased prospects for addressing poverty issues in productive sectors Positive general governance effects of linking to decentralisation Reduces environmental costs of mono-sectoral planning | <ul style="list-style-type: none"> Increased effectiveness and reach of policies and plans may impose on customary local resource management regimes (e.g. IP forest management practices), or remove last-resort options for the poorest (e.g. illegal practices) |

Source: Adapted from Peskett et al (2008)

Table 5 summarizes some key points in this respect, pointing out the possible implications in poverty terms, as well as actions that can help redress the possibly negative effects of such policies. The development and adaptation of these policies pose distinctive challenges in producing pro-poor REDD and should not be underestimated. Yet the good news is that many of the required modalities and approaches are already known and are being implemented in a number of countries, including under PFM, but also more broadly in terms of cross-sectoral coordination etc. While their success has been limited so far, REDD offers an opportunity to boost such approaches and ensure their actual implementation. However, this will require the pro-poor agenda to be brought more centrally into the current REDD debate than is currently the case. If this does not happen, there is a real risk that REDD becomes a liability rather than a benefit to the poor.

9. Implications for donor support

Expand the scope for REDD “preparation”

Through the FCPF, UN-REDD and other funds, much emphasis has recently been placed on ensuring the “readiness” of developing countries for REDD. While this is good and necessary to some extent, care should be taken not to put the cart before the horse: the drivers of deforestation and forest degradation extend well beyond the need for financial incentives, and the state’s capacity to address these drivers traditionally remains weak, particularly in LDCs. There is a need, therefore, to avoid REDD-related funding to developing countries from becoming overly “mechanism-driven”, and instead to increase the emphasis on developing actual reforms and to address the challenges (and opportunities) of ensuring equitable benefits on the ground (Brown and Bird 2008; Daviet et al. 2009).

Within this overall emphasis, there is clearly also room to support specific aspects of national REDD mechanisms that can help ensure equity. This includes modalities to ensure transparency in national payment schemes, as well as accessible mechanisms for conflict resolution, participatory approaches to REDD monitoring schemes, and options for independent advice and legal support to local stakeholders. Through their role as development partners, donors can also help promote the voice and inclusion of forest-user organizations etc. in the actual design and preparation activities.

Support national policy reforms and frameworks

If REDD is to have any real impact in terms of poverty alleviation and longer-term national economic development, there is no way around the need for substantial policy reform in forestry sectors in many LDCs and other countries along the lines of what has been outlined above. This includes in particular the need to address and secure local forest rights, and policy reforms that take a cross-sectoral perspective in addressing drivers. This is not easy, and the pay-off will be some time in coming. Nevertheless, the potential benefits are substantial at a number of levels, both within and outside the REDD context.

For LDCs in particular, support to such reforms can help meet some of the upfront investment costs that such countries might otherwise not be able to bear. If this is not done, there is a real risk that LDCs will: (i) be unable to deliver on sold cred-

its; (ii) be unable to attract investors out of fear of the risks involved in investing in countries with poor forestry and fragile governance frameworks; (iii) be tempted to omit the time-consuming and costly development of inclusive approaches and benefit schemes; or simply (iv) be unable to take part in REDD mechanisms.

Support to such reforms and policy frameworks will also help deliver a number of significant social, environmental and governance spin-off benefits beyond forestry, as well as having the advantage of providing developmental benefits that will materialize even if the REDD mechanism were to fail. In saying this, it is also crucial to ensure that support to REDD-related schemes does not replace or detract from other existing support to the social and productive sectors.

Facilitate equitable local forest governance

While some pilot efforts within community-based REDD are currently being undertaken on the ground, these have only addressed the local governance aspects of REDD to a limited extent. In particular, limited attention has been paid to how REDD can be aligned and integrated with the general process of decentralization and the development of local governance. Likewise, avoiding marginalization for the poorest in community-level decision-making and the allocation of REDD-related benefits has received very little attention. Supporting such local governance mechanisms is not so much about developing new institutional structures as it is a matter of enhancing existing ones in a more inclusive and pro-poor direction. Moreover, support to local forest-governance frameworks should not be focused merely on developing “REDD-capacity”, but should rather aim at developing long-term, independent frameworks that include even the capacity to choose other approaches than REDD if so desired.

Promote sustainable community forest use in REDD

The potential for inclusion of forest restoration and sustainable forest management at local levels remains “up in the air” in the current REDD discussions, although the ongoing debate suggests a growing interest in accommodating such approaches in some form. As pilot work has shown, these approaches have good poverty alleviation potential and represent low-cost emission-mitigation options. Given the current importance and future potential of small-scale forest enterprise development, they also fit well with the increasing attention being given to employment creation in donor policies. In addition, given the importance of forest resources in local cop-

ing strategies, they provide an important means of supporting not only mitigation, but also climate change adaptation – not least in LDCs. As such, community forest use approaches deserve more attention and constitute a line of support that can provide direct pro-poor benefits, even if a post-2012 REDD regime fails to materialize.

Build on what's already there

The above priorities do not need to start from scratch. The current REDD debate sometimes appears to overlook the fact that a significant body of relevant experiences and approaches already exists and is developing within and beyond the forestry sector more generally. For instance, there are valuable emerging experiences from countries such as Nepal (as well as Indonesia and Brazil), which are currently undertaking forest tenure reforms. Likewise, there are valuable experiences and even existing institutional frameworks to build on within Participatory Forest Management from a number of countries (including the Danida-supported efforts in Tanzania), just as there are lessons to draw on from a variety of PES schemes and from protected areas management. The emerging experiences, good and bad, from ongoing donor-support to cross-sectoral environmental policy development in a number of developing countries can also help indicate directions (e.g. the importance of the full involvement of Ministries of Finance, etc.).

Address the international REDD design issues

While not the role of donor agencies per se, there is a need for national and international stakeholders in the REDD negotiation process to pay greater attention to the potential poverty consequences of international REDD design options. This includes recognizing that the social aspects of REDD are relevant to a substantial number of citizens worldwide, including also a very large number of farmers that one might not at first think of as being “forest dependent”. Addressing the poverty issue implies a greater emphasis on issues such as how and to what extent social standards and local rights issues can be incorporated in REDD, and how sustainable forest use and restoration by local communities can be rewarded and accounted for. In this respect, a purely market-driven REDD mechanism that aims only at securing cheap emissions reductions and credits, regardless of the social and economic impacts, is highly problematic, not just for the rural poor, but also for LDCs that in many cases would have great trouble in competing on equal market terms.

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Annex A

Rationale for scoring of options in REDD

Note: the score is an indicative assessment for use in the spider diagrams in the main text

| Score 1-4 Where 4 is best | Pro-poor livelihood potential | GHG emission reduction |
|--------------------------------------|---|--|
| Avoided Deforestation | <p>Assessed score: 2</p> <p>Low income-potential where poorest are not involved in land-clearing; possible loss of jobs in logging sector</p> <p>May be practically and technically difficult to compensate for avoided small-scale land-clearing e.g. cyclical cultivation</p> <p>Potential indirect benefits from sustained/improved ecosystem services</p> | <p>4</p> <p>High potential, as land-clearing is major source of forest emissions, but only in LDCs where deforestation is major issue</p> <p>Leakage risk high if project-based</p> <p>Requires strong governance and control to be effective. May be a problem in some LDCs</p> |
| Avoided Degradation | <p>3</p> <p>As for Avoided Deforestation if emphasis is sustainable logging</p> <p>If linked to Forest Restoration may have greater pro-poor potential through SFM/PFM and benefit-sharing</p> | <p>3</p> <p>Good potential in some LDCs, especially if combining RIL with Forest Restoration.</p> <p>Methodological difficulties in monitoring and accounting for Avoided Degradation may be particular problem for low-capacity LDCs</p> |
| Afforestation/ Reforestation | <p>3</p> <p>Some labour opportunities in plantations. Enhanced incomes from agro-forestry crops</p> <p>Investment costs may exclude the poorest</p> <p>Negative environmental impacts from poor planning may hit poorest hardest</p> | <p>3</p> <p>Good potential. Geographical scope differs according to means of calculation in assessments. Some find less potential in Africa.</p> <p>Leakage risk high if afforestation leads to increased demand for land (e.g. cutting natural forest)</p> |
| Forest Restoration (with SFM) | <p>4</p> <p>Good scope for enhanced local forest use and benefit-sharing (if undertaken as SFM)</p> <p>PFM approaches can help strengthen non-economic livelihood aspects (rights, voice)</p> <p>Poorest may not necessarily benefit if local governance is not transparent/does not involve poorest</p> | <p>3</p> <p>Good potential. Arrests negative change (i.e. Avoided Degradation) and enhances positive change</p> <p>Leakage problems lower in subsistence oriented forest restoration (acc. to IPCC)</p> <p>Dry forest emission-reduction potential still not well understood. Lower carbon density, but covers significant spatial area in e.g. Africa</p> |

| Score 1-4 Where 4 is best | Local environmental benefits | National economic growth potential |
|--------------------------------------|--|---|
| Avoided Deforestation | <p>4</p> <p>Preserves biodiversity-rich primary forest. Sustains existing forest ecosystem.</p> | <p>3</p> <p>Share of benefits for some LDCs may be limited if “big” forest countries dominate (eg Brazil, Indonesia)</p> <p>Fair prospects for some LDCs (eg Congo basin), provided opportunity costs are exceeded by carbon prices</p> |
| Avoided Degradation | <p>4</p> <p>Preserves biodiversity-rich primary forest. Naturally restores existing forest ecosystem.</p> | <p>3</p> <p>As for Avoided Deforestation</p> <p>Particular methodological difficulties in monitoring and accounting for Avoided Degradation could mean investors avoid low-capacity LDCs in this category</p> |
| Afforestation/ Reforestation | <p>2</p> <p>May enhance ecosystem services through e.g. watershed conservation</p> <p>Stands/plantations typically low-biodiversity, and foreign species may have negative impacts</p> <p>Risk of perverse incentives to replace primary forest with A/R if not regulated in REDD</p> <p>Leakage risk high if afforestation leads to increased demand for land (e.g. cutting natural forest)</p> | <p>2</p> <p>May increase potential for some LDCs but requires finance and capacity</p> <p>Can support Forest SMEs and employment, who form important part of local forest industry in many countries</p> <p>Biggest emissions reduction scope for A/R is in Asia and Latin America. African LDC prospects more limited.</p> |
| Forest Restoration (with SFM) | <p>3</p> <p>Restoration of ecosystem functions.</p> <p>Biodiversity partly restored</p> <p>Leakage problems lower in subsistence oriented forest restoration (acc. to IPCC)</p> | <p>2</p> <p>May improve prospects for LDCs with high degradation/low deforestation (depending on baseline used).</p> <p>Can support Forest SMEs and employment, who form important part of local forest industry in many countries</p> <p>Could increase potential for LDCs w. extensive dry forests – but depends on carbon potential of dry forests</p> |

| Score 1-4 Where 4 is best | Initial investment costs (1= high cost, 4= low cost) | Maturity of technology/ approach |
|---|---|--|
| <p>Avoided Deforestation</p> | <p>2</p> <p>Initial, upfront investment costs relatively high for national capacity development in methodologies, increased enforcement etc.</p> <p>Could be a problem for LDCs, especially if ex post payment principle is applied in a global carbon market</p> | <p>2</p> <p>Still to be seen if payments for avoided logging/land clearing can actually off-set the extensive opportunity costs for governments and private sector</p> |
| <p>Avoided Degradation</p> | <p>2</p> <p>As for Avoided Deforestation (possibly lower cost if undertaken through Forest Restoration)</p> | <p>2</p> <p>Unclear if Avoided Degradation is effective if it is only focused on selective logging with no benefits to forest dependent communities.</p> <p>RIL and other approaches emerging.</p> |
| <p>Afforestation/ Reforestation</p> | <p>2</p> <p>National and private A/R programmes often have relatively high initial investment costs, especially if land is factored in</p> | <p>3</p> <p>Broad experiences (good and bad) from a range of contexts</p> <p>Effect on emissions still only partly understood</p> |
| <p>Forest Restoration (with SFM)</p> | <p>3</p> <p>Relatively low investment costs (depending on extent of degradation of forest), especially if undertaken through PFM</p> <p>Some transactions costs may be higher compared to Avoided DD if PFM is applied because of necessary site-by-site approach</p> | <p>2</p> <p>Some experiences (good and bad) from a range of contexts</p> <p>Effect on emissions still only partly understood</p> <p>Requires strong governance systems if applied in PFM context, which are not always present</p> |

Annex B

Major funding sources within climate and forestry

The *Clean Development Mechanism (CDM)* is the only current mechanism under which forest interventions in non-Annex 1 countries may be credited under the Kyoto protocol. The CDM addresses only Afforestation and Reforestation (A/R) and works at the project level. Non-A/R forest interventions are not included under the CDM because of concerns over the technical challenges involved in accounting and monitoring during the drafting of the current protocol. Experiences with A/R forestry projects within the CDM have, however, been limited. By late 2008, only 27 CDM A/R projects were under actual development, despite an estimated potential figure of some 4000 such projects. Just two projects had actually been registered and validated by March 2009. Major constraints have included bottlenecks in the development of procedures and methodologies, relatively cumbersome procedures and in particular the exclusion of CDM as an option under EU trading schemes (the world's largest carbon market). For developing countries, constraints have included the relatively high upfront investment costs and the need for knowledge of international modalities and methodologies. This has been particularly problematic for small-scale A/R projects, for which the CDM does otherwise provide.

Developments have been more rapid in the *Voluntary Carbon Markets*, where a number of forest projects and programmes have been accommodated in recent years. Studies furthermore suggest that investors in these markets are less prone to risk aversion and often include moral commitments that provide for greater attention to social issues and benefits. That said, the Voluntary Markets have also been dogged by a fragmentation in the variety of different markets and frameworks, leading to a lack of overview and, according to some sources, to less than rigorous standards. Some Voluntary Markets have thus been criticized as setting low benchmarks in the pursuit of cheap credits.¹⁶

Two major multilateral funds have been initiated specifically for REDD-related activities in developing countries:

¹⁶ The Voluntary Carbon Standard (VCS) is a case in point. It was recently re-launched by a number of major business groups, corporations and state authorities, including the World Business Council for Sustainable Development, the Climate Group (incorporating members such as Google and Swiss Re), the Greater London Authority and the State of Massachusetts. The VCS has been heavily criticized by the WWF and other NGOs as being unambitious in its rigour and level of standards, and with a primary emphasis on securing access to cheap credits.

The *Forest Carbon Partnership Facility (FCPF)* consists of a Readiness Fund intended to develop REDD capacity (aiming at approximately USD 100 million, of which 79 million has been confirmed) as well as a Carbon Finance Mechanism (aiming at USD 200 million, of which 55 million has been pledged to date). Established in 2008, it is currently developing procedures and standards for on the ground operation. The facility includes a small grants programme which includes a USD 1 million fund for the capacity development of forest-dependent communities. The FCPC has come under criticism from some national governments and CSOs for being overly donor-driven in decision-making, while indigenous people's organizations have decried the lack of IP representation. As a result, the facility has recently provided observer status for IP organizations.

The *UN-REDD programme* was initiated in September 2008 as a multi-donor trust fund under the auspices of UNEP, UNDP and FAO. So far Norway is the only contributor, with a current commitment of USD 35.000.000 (of which pilot countries will be allocated a maximum of USD 4 million each). Like the FCPE, the programme aims to provide support to the development of national REDD strategies and modalities, as well as associated capacity development. A collaborative agreement on joint needs assessments, planning tools and missions has been established between UN-REDD and FCPC. Like the FCPC, the UN-REDD programme has been criticized for its lack of attention to the possible negative impacts of REDD, including the possible implications of a rather loose definition of "forests" which may pave the way for logging of primary forests followed by plantations.

Table BI: Overview of countries approved for FCPF and UN-REDD facilities

| | Africa | Asia | Latin America |
|---------|--|--|---|
| FCPF | Cameroon DR Congo * Ethiopia * Gabon Ghana Kenya Liberia * Rep. Congo * Uganda * | Lao PDR * Nepal * Papua New Guinea Vanuatu * Vietnam | Argentina Bolivia Colombia Costa Rica Guyana Mexico Nicaragua Panama Paraguay Peru |
| UN-REDD | DR Congo * Tanzania * Zambia * | Indonesia Papua New Guinea Vietnam | Bolivia Panama Paraguay |

* = LDC

Parallel to the funds aimed at readiness preparation, Norway has pledged substantial funds for a number of other efforts aimed at Avoided Deforestation and Degradation (the total annual amount pledged by Norway for forest and climate work amounts to USD 500 million). This includes support to the *Congo Basin Forest Fund* under the AfDB, to which Norway and Britain have jointly committed USD 210 million, as well as NOK 500 million for national strategy development and capacity enhancement in *Tanzania*, and NOK 700 million to the Brazilian *Amazon Fund* for similar work (NORAD 2008).

Other multilateral facilities include the *World Bank Biocarbon facility*, a mechanism for fostering carbon trade and financing, with sixteen forest projects currently being implemented. The *GEF Tropical Forest Account (TFA)* was established in 2007 and is focused on supporting synergies between forest emissions reductions and co-benefits within biodiversity and environmental services (initial funds: USD 60 million). As with other GEF funding, it funds only the global additionalities of national interventions and is focused on hotspots in deforestation and biodiversity terms.

Major bilateral climate and forest programmes currently include the German *Life Web Initiative*, focused on protected areas development, and the Australian *Global Initiative on Forests and Climate (GIFC)*, aimed at reduced deforestation and degradation as well as A/R in developing countries. A smaller number of programmes are specifically aimed at testing and supporting options for pro-poor REDD at local levels. This has included the *Community Carbon Forestry Programme* funded by the Netherlands Development Cooperation, which is piloting community REDD models in Africa and Asia, and the Danida-funded IUCN Programme, “*Towards Pro-Poor REDD*”, aimed at enhancing capacity and policy for pro-poor REDD governance.