

The Policy Context of Community

Monitoring for REDD+

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Among other issues relating to international policy to deal with climate change, the Copenhagen Accord of the UNFCCC (2009)¹ formally indicates the resolve of the community of nations to create an international policy instrument relating to tropical forests by which reductions in greenhouse gas emissions from deforestation and forest degradation and increases in sequestration of CO₂ by forest sinks in developing countries may be financially rewarded. This follows a statement by IPCC that forestry was the second largest source of greenhouse gas emissions during the 1990s, after power production: 5.8Gt CO₂ equivalent per year, which is slightly more than the emissions from the transport sector (IPCC, 2007). Estimates in the scientific literature have put the contribution of forest emissions to total global greenhouse gas emissions as about 25% (FAO, 2005), 20% (Gibbs and Herold, 2007), 18% (Angelsen et al, 2009) and 12% (van der Werf et al., 2009), the lower values in general corresponding to more recent estimates deforestation and to increases in overall greenhouse gas emissions, particularly in emerging economies. These values are still contested, but even the lowest estimates indicate that loss of forest, which takes place almost entirely in tropical areas, is a major contributor to atmospheric CO₂ levels and therefore that this sector requires special consideration as regards mitigation. For this reason the parties to the UNFCCC are currently (mid-2010) discussing a new policy under the title 'Reduced Emission from Deforestation in Developing countries'. The current acronym for this policy is 'REDD+' and its full meaning will be elaborated in the section that follows.

The details of how the mechanism for REDD+ will function have not yet been worked out, however the intention is expressed in the Copenhagen Accord, Article 6 as follows:

“We recognize the crucial role of reducing emissions from deforestation and forest degradation and the need to enhance removals of greenhouse gas emission by forests and agree on the need to provide positive incentives for such actions through the immediate establishment of a mechanism including REDD+, to enable the mobilization of financial resources from developed countries”

UNFCCC (2009).

The establishment of such a mechanism could open the door to large flows of resources from developed countries to support improved forest management in developing countries, and the idea has been widely welcomed, since besides the emissions reduction benefits, a number of secondary benefits, including protection of biodiversity and support to other forest environmental services such as water retention in catchment areas would be expected to result. Moreover, it has been estimated that costs of carbon emissions reductions brought about by this kind of mechanism would be competitive with those of renewable energy and energy conservation (Stern, 2006). The instrument would however be very different from earlier forest carbon options under the Kyoto Protocol and from forest projects in the voluntary carbon market. A brief account is first given of how tropical forestry has been included in UNFCCC policy up to now, and then REDD+ policy is explained in more detail.

1. Emissions from forests under the Kyoto Protocol

Under the Kyoto Protocol, all countries are supposed to assess and report on the emissions and removal of greenhouse gases from their forests, and in Annex A

countries (developed countries) these are included in the overall accounting in relation to their quantitative emission limitation and reduction objectives. Under the Clean Development Mechanism (CDM), Annex A countries may obtain carbon credits from afforestation and reforestation projects in developing countries to off-set part (1% per year) of their reduction obligations, but to date only 14 CDM forestry projects (one afforestation, 13 reforestation) have been approved by the UNFCCC (CDM pipeline, 1 May 2010) and broadly this avenue within CDM has not been very successful. The conditions pertaining to CDM afforestation/reforestation projects are rather restrictive and the transaction costs have proven to be high (WRM, 2007). The credits issued are not full credits like those relating to energy projects but only temporary (because of the inherent possibility that the carbon sinks created could be reversed), so their value is low, and the EU Emissions Trading System does not accept them (because of doubts of many member states about including the forest sector), which means the market is very small. But in any case CDM forestry projects do not address the issue of emissions from tropical forests, because they involve only the creation of new sinks (tree plantations) on land which has never been forest or which has not been under forest since 1990. The reason for this restriction is logical; it is designed to prevent existing forests from being cut down for the sake of planting new trees financed through the CDM, which would be regressive in various ways.

2. The evolution of REDD+

The idea of REDD+ evolved over a number of years with a view to dealing with the huge emissions of carbon dioxide that are associated with loss of tropical forest. First mooted by researchers from the Brazilian research organization IPAM (Moutinho and Schwartzman, 2005), it was taken up by the NGO Environmental Defense and hit the

headlines when an impassioned speech for the inclusion of tropical forests in international climate change policy was made by Robert Aisi, the Papua New Guinea Ambassador to the UN, supported by Costa Rica, in 2005. It was originally conceived of as a simple instrument which would involve tracking the rate of loss of forest area (as a result of deforestation, clear felling and complete change of land use) and rewarding reductions in this rate of loss proportionate to the amount of carbon the forests hold, and it was known as RED, with a single D. It soon became apparent however that degradation would have to be included (it is now widely seen as “the second D in REDD”)². Degradation in the context of REDD refers to loss of carbon density from within forests which remain forests. This is important, for two reasons. One is that, if deforestation is restricted, there is a danger that instead, a larger area of forest could be plundered for timber and other products, such that the number of trees per hectare (and thus the carbon stock) would be significantly reduced, although technically it would still be a forest (i.e. not count as being deforested)³. The second is the growing realization that considerable stocks of carbon are lost every year in any case from within standing forests, as a result both of commercial timber harvesting (legal and illegal) and of informal uses of forest products by local people, for their own supplies of firewood, charcoal, fodder and small scale shifting cultivation. In some countries, charcoal production is the major activity bringing about degradation. In these cases it is usually not carried out by local communities but by people who move into a forest area temporarily, set up traditional kilns, produce a few batches of charcoal and then move on. All these processes need to be accounted for and preferably controlled through a form of management that is sustainable.

As negotiations proceeded within the technical wing of the UNFCCC (SBSTA, the Subsidiary Body on Scientific and Technical Advice), the need to include other forest dynamics was raised. It was noted that when degraded forests are brought under improved management, such that extraction of forest products remains below the rate of re-growth, the biomass stock increases as a result of natural regeneration (this has been dubbed 'negative degradation' in some sources), though sometimes also through enrichment planting. Moreover, in some places a cyclical form of management is in place, in which in every year a part of the forest is felled and replanted or allowed to re-grow. This would be recorded as 'deforestation' if reference were made only to this patch; if the whole forest area is considered as a management unit, it might be recorded as 'degradation'. However, given the fact that there will always be a demand for forest products, in the long run this system may represent a sustainable practice, even though it leaves the average carbon stock over the whole area lower than that of the original forest. To cover this situation, the text of the SBSTA advice includes a reference to Sustainable Forest Management. Finally, several countries such as India and China that have already greatly reduced or halted their deforestation rates argued that the policy should recognize this and provide for financial rewards also for the conservation of forest stocks, and they were supported in this by countries such as Guyana that have never had high deforestation rates. These countries argued that REDD as first conceived would reward the 'sinners' rather than the 'angels, and that it would represent a perverse incentive in the long run. As a result of all these considerations, three additional terms – forest enhancement, sustainable forest management and forest conservation – have been included in preliminary drafts of the policy, which is why it is now referred to as 'REDD+'. There is some debate still going on about whether forest enhancement is limited to enrichment planting or includes also natural regeneration

resulting from introduction of a sustainable management regime. In this book we take the view that without rewarding natural regeneration, REDD+ will not be attractive enough economically to engage stakeholders in combating degradation. This follows from the findings presented in Skutsch (2010), where we have shown that annual rates of natural regeneration, though not enormous, tend to be several times larger than rates of degradation. Constructing a baseline for degradation presents very considerable problems, and that rewarding carbon sequestered by regeneration instead offers a simpler way of dealing with degradation.

2.1 REDD+ as a national sectoral programme

Most Parties to the UNFCCC support the idea that REDD+ will operate at national level in the form of a sectoral programme, unlike CDM in which individual projects are set up, accounted and rewarded with carbon credits (Certified Emission Reductions, or CERs). It is on the basis of a national, sectoral, programme that some 40 countries have prepared outline REDD+ plans for submission to the 'REDD Readiness' funds of the World Bank (the Forest Carbon Partnership Facility, FCPF: www.forestcarbonpartnership.org) and UN-REDD (www.un-redd.org). Under national REDD+ programmes, countries would claim carbon credits at the central level, based on average achievements over their whole forest territory compared to a national reference emission level (REL), at the end of a given accounting period. Exactly how the REL will be established has not yet been agreed, but it is likely to be based on historical patterns of forest loss, adjusted by country circumstances to take account of current realities and probable future trends.

A number of countries have argued for separate accounting for different states or large provinces, particularly in cases in which some of their territory is not fully under the control of central government due e.g. to insurgency, but the principle of a sectoral approach still holds. One of the main reasons for this is to avoid 'leakage', or displaced emissions (at least within the country: it is very difficult to account for and avoid international leakage, which has not been taken into account in non-forestry sectors either). Another is that tackling the drivers of deforestation and degradation at base will require many national policy interventions (for example as regards clarification of land tenure, adjustment and enforcement of forest law, etc) as well as local level action. A third possible reason is that governments, and particularly their forest departments, see REDD+ as a golden opportunity to deal root and branch with the problems that have beset forestry in the past, and would therefore prefer to take the lead, and take charge of the funds, themselves. Conceptually, the national approach to REDD+ fits into a more general UNFCCC policy which is under consideration, Nationally Appropriate Mitigation Actions (NAMA), which foresees developing countries adopting a range of sectoral approaches to mitigation of emissions for the purposes of developing off-sets. There are however other views on the advisability of a sectoral approach in reducing emissions from forestry. The term 'nested approach' is sometimes used to mean a system in which REDD+ projects would be run as independent, credit-claiming entities, rather like CDM projects. A number of prominent international NGOs such as The Nature Conservancy and Environmental Defence have made the case that a project approach would be more efficient, particularly considering the poor track record of many forest departments in promoting sustainable approaches to forest management (for some of these project-based REDD models, see Parker et al., 2009). There are also worries that nationally based REDD+ may threaten to reverse the gains made in the last

twenty five years in decentralizing authority over forests (Phelps et al., 2010). But in general, and particularly at the level of UNFCCC, policy appears to be heading towards a national approach with a single REL and central accounting of carbon gains and losses.

2.2 Involvement of communities in monitoring

One way in which community rights could be supported in REDD+ is through involvement of communities in monitoring carbon stocks. There is a clause in the preparatory text on REDD+ methodology which is intended to give indigenous peoples and local communities a definite stake in process, which states that:

“The Conference of Parties recognize(s) the need for full and effective engagement of indigenous peoples and local communities in, and the potential contribution of their knowledge to, monitoring and reporting of activities.”

and

“encourages, as appropriate, the development of guidance for effective engagement of indigenous peoples and local communities in monitoring and reporting” (SBSTA, 2009).

These statements may be taken as an indication that the Parties to the UNFCCC are mindful of the position of such communities and seek to protect their rights and position without violating countries sovereignty. Hence policy may be expected to place community involvement in data gathering rather centrally in REDD+.

2.3 Nature and use of credits

It is still very unsure how REDD+ will be credited. Debate continues over whether REDD+ will be financed by a ‘market’ or through a ‘fund’. A market implies that

emission reductions may be purchased and used to off-set emissions, as with CERs generated by CDM projects. However, REDD+ does not fall under the Kyoto Protocol, and in any case the Kyoto Protocol will expire in 2012 and up to now (May 2010), no further agreement has been reached on emission reduction obligations for the Annex A countries. A fund implies that financial resources may be pledged by developed countries either on a voluntary basis, or raised through a tax. The fund would probably be managed by a global organization, for the purpose of supporting activities of Parties undertaking REDD+ activities. The resulting credits would not necessarily be used as off-sets. There are fears that a fund would not be able to raise sufficient money to support REDD+ on a meaningful scale (Corbera et al., 2010), but some observers, including some of the countries that are most likely to be involved, feel more comfortable with a fund than with an (imperfect) market-based mechanism. This is partly because it is feared that if a credits are sold on a market, the emphasis will be on efficiency (i.e. cheapest carbon credits possible) while if purchases are made by public funds, there will be more concern for fairness and social/societal goals (ICRAF, 2009). Whether this is true or not depends mainly on the rules under which the market operates. Judging by the restrictions that are imposed on CDM projects, it is likely that under international rules for REDD+ there would be a raft of safeguards to protect the rights of forest dwelling people, for example. Besides, it is by no means a foregone conclusion that a fund would be kinder from an equity perspective. This idea reflects the somewhat elitist notion that the professional scientists and public officials behind the fund are more responsible than those buying credits for businesses or for Annex A countries for off-sets.

In the meanwhile, some large bi-lateral initiatives have already started, independent of UNFCCC decision making but with a view to supporting it through pilot schemes. Notably deals have been made between Norway and Indonesia, Brazil, and Guyana with Norway making available US\$1bn over the next few years to Indonesia and Brazil, and US\$30m to Guyana, first to prepare for the transition to decreased deforestation, and then on the basis of verified emissions reductions. This programme has been welcomed by many although it has also attracted criticism because the Letters of Intent that have been signed do not carry the safeguards for indigenous forest people that many civil society organisations believe are necessary. Preliminary suggestions for how payments will be made (on the basis of average carbon content over very large areas) seem to suggest that the goal of this programme is reduced deforestation, rather than reduced degradation or forest enhancement.

2.4 The equivalence of forest carbon credits with those from reduction of fossil fuel use

Another concern that has been expressed is whether the reduction of emissions from forests is equivalent to reduction of emissions from fossil fuels, and therefore whether forest emission reductions should be credited at all, or given a different type of credits which are not fungible with fossil fuel related CERs. A number of environmental organizations argue that the terrestrial cycle of carbon is an entirely natural phenomenon, involving a process of absorption and release of greenhouse gases limited to the terrestrial biosphere. They see the mining of fossil fuels as quite different, as it is unnatural and involves only release, adding carbon from harmless underground deposits to the carbon cycle of the terrestrial biosphere. Therefore, although they believe it is important for a variety of reasons to combat deforestation, this should not be confused

with attempts to mitigate climate change due to fossil fuel use (Kill, 2006). Others are concerned with the permanence of reductions in emissions from forests, on the grounds that a forest may be protected from felling this year, but if it is instead cut next year, the carbon will be released despite the fact that the forest owner or manager has been allocated credits. This argument about permanence is, as we point out below, flawed. However, concern on the issue has led to suggestions that countries participating in REDD+ should sign a kind of indemnity agreement and promise that areas committed to REDD+ will remain as forests for an agreed period of time. An alternative is that they take out some kind of insurance policy on the carbon credits issued, although who would be responsible in the case of loss of the forest – the producer of the credits or the purchaser – is not entirely clear (Dutschke and Angelsen, 2008).

2.5 Permanence

The argument about the intrinsic impermanence of forest carbon credits is based on the idea of reversibility of forest stock. But REDD+ is intended only to reward reduction of the rate at which forest is lost, not the stock itself. This is entirely equivalent to the approach of the Kyoto Protocol as regards fossil fuel emissions. By introducing clean technology, we reduce the rate at which fossil fuel is excavated and transformed into energy and carbon dioxide. This means we are slowing down the process, making it less harmful in any one year; but eventually, all the accessible fossil fuels will be consumed. An efficient power plant may be established under CDM and reduce the carbon emissions per kilowatt hour of electricity produced, but this merely prolongs the period over which electricity can be made from fossil fuels. REDD+ follows exactly the same logic. The idea is to reduce the rate of loss of forest carbon. We may not be able to halt deforestation and degradation entirely, but hopefully it can be slowed down.

During periods when the rate of loss of forest is less than ‘business as usual’ as represented by the REL, credits will be issued; if the rate returns to its original level, then no further credits are earned. Even a short delay in emissions is good for the environment; the question of ‘reversing’ gains made earlier does not arise (Skutsch and de Jong, 2010; Skutsch and Trines, 2010).

In this regard, the inclusion of forest conservation within REDD+ may necessitate a different approach to crediting. Reduced deforestation, reduced degradation, forest enhancement and sustainable forest management are all measured in terms of rates of loss or gain compared to a REL, but placing forest conservation under REDD+ implies that forests should be rewarded for not changing against a flat REL. It may therefore require a system of crediting for total stock, rather than for rates of change of stock, and it is not clear how this will be arranged. One possibility could be a different sort of credit, paid on the basis of area of forest rather than tonnes of carbon, for stocks which have stabilized. This would enable the ‘angels’ to participate in REDD+ and protect forests in the longer term.

2.6 Additionality and leakage

The question of additionality – which is a major consideration under CDM – does not seem to arise under a national REDD+ approach. It is taken care of by the REL, since any improvements in emissions and removals above the REL or above a bench mark (an agreed level slightly above the REL) are considered additional and therefore creditable. The question of leakage is also circumvented within any one participating country, since gains and losses are summed and averaged at national level. Of course, there may be leakage from the forest sector into other sectors of the economy. If rural people start to

use kerosene or LPG instead of firewood, or if the construction industry turns to steel and concrete rather than wood, there will be associated emissions. More serious would be the international emissions that will result if one country clamps down on timber extraction while another, not participating in REDD+, takes advantage of space in the market to expand their own forest industry. But this is a problem with any national approach to mitigation, and is not restricted to the forestry sector. The flight of heavy industry, with its high emissions, from Annex A to developing countries is in part (though clearly not entirely) related to environmental restrictions. Until emissions are ascribed to the consumers of products rather than the producers, this loophole in international policy will remain.

3. Putting together the elements of a national REDD+ programme

In order to participate in REDD+, countries will have to define the areas that are to be included in their programme ('REDD+ forests'), develop a REL, establish an internal accounting system with a geo-referenced database, and an adequate monitoring and verification system for tracking changes in forest biomass levels across all REDD+ forest areas within their territory, as well as promulgating policies, programmes and projects designed to reduce emissions and increase sequestration. In what follows, the role of communities and particularly the role of community monitoring in these tasks will be specially considered.

3.1 Forest definition

The definition of forest for the purposes of REDD+ will not necessarily be the same as that used under the Kyoto Protocol or for reporting e.g. to FAO. Under the Kyoto Protocol, it was advantageous for developing countries to minimize the area defined as

forest, and most countries opted for a definition in which the minimum canopy cover was 30% and the tree height, 5m. This meant that large areas of landscape with some trees were not defined as forest and could therefore, in principle, be used for CDM afforestation and reforestation projects. Under REDD+ however the logic is different. The larger the area defined as forest, the more the area that can be included for crediting in REDD+, and therefore a minimum canopy cover of 10% and a tree height of 2m has been proposed by some, for example by Kenya in her proposal to the FCPF. The question that countries will have to consider however is whether it will really be advantageous for them to include very large areas of forest in their REDD+ programmes. There will be a trade off in terms of how much carbon can be 'saved' (credited) per hectare versus the costs of monitoring. Areas with a low potential for emissions reductions or forest enhancement may cost more to monitor than they would be worth. What matters here is not so much the stock level itself, but the rate of change of stock. Areas which are heavily degraded, once brought under a sustainable management regime, may have rather high rates of growth and would therefore be capable of generating considerable numbers of carbon credits. Important in the calculation will be the estimated cost of monitoring, and the presence of local communities capable of carrying out monitoring may be a significant deciding factor here. Much will also depend on whether monitoring can be carried out from remote sensing (which is generally the case for deforestation) or will require ground level surveys (which is likely to be the case for degradation and forest enhancement, since small changes in biomass stock within existing forest are difficult to detect from satellite images).

All this raises the question of whether countries will in practice be permitted to use different definitions of forest when participating in different policy options under UNFCCC, as this might raise questions about consistency and even integrity. Further, there is the question of what is legally `forest` in any particular country. Many tree-filled landscapes are essentially agricultural and do not necessarily fall under the authority of the forest department. If the REDD+ programme is organized by the forest department, which also collects the credits, it may be expected that other administrative departments will want their share.

3.2 Establishing the national REL

Most countries agree that the REL should be based on historical rates of deforestation and degradation, modified according to particular circumstances. The key words here are `be based on`, which would allow a country to estimate a future emission profile that has some relation, though not necessarily a straight line relation, with historic trends. Such extrapolations would have to be based on a sound, well-considered rationale. For example, countries which have had very low rates of deforestation in the past may argue that a higher rate of deforestation in the near future is realistic, and that therefore this higher rate should be used in the REL as it better represents what the future situation would be without REDD+. This is particularly important in the case of countries that have recently emerged from internal conflict or war situations, during which time no timber extraction had been possible. But there is also the question of which historical period is to be used in establishing the REL. A REL which is determined over the period 1970 to 2000 will benefit some countries and a REL determined over the period 2000-2010, others. For example, Brazil reduced her deforestation rate considerably between 2003 and 2007 and would be penalized if this

were the main period to be used; credits could be achieved with less effort if instead the REL were to be based on 1990-2000. In all fairness, variation in REL periods should be permitted for different countries, provided that they are able to justify the choice of a particular historical period and any adjustments made to this rate, in terms of the likely future scenario without REDD+. This would be comparable to, and in line with, the approach that was taken in the past for determination of base year emissions by developed countries. Each had to submit a report for this specific purpose to the UNFCCC. These reports were reviewed by expert panels, advice was given, and the final decision on each country's base year was finally debated at the Conference of Parties before being fixed for the first commitment period of the Kyoto Protocol.

There will be two dimensions to the REL: the area of forest and the density of carbon stock within the forest, corresponding to so-called 'activity data' and 'emission factors' respectively. Forest area and changes in forest area are relatively easy to establish, even historically, from satellite imagery. Density of carbon within the forest is much more difficult to measure and monitor. It varies in the first instance by biome, and secondly by human use, and small (annual, or five yearly) increases and decreases are in many cases very difficult to determine even with very high resolution imagery such as IKONOS or Quickbird, and impossible with more commonly available medium resolution technology such as Landsat. Ground surveys are the only reliable source of data on carbon density but have rarely been uniformly and systematically carried out. As a result, data reported e.g. to FAO on stocking rates are very rough estimates with a low level of accuracy in most countries.

This implies that while establishing a reference emission level for rates of forest clearance (deforestation) is relatively straightforward, it is not clear how the

complementary data on past rates of degradation are going to be obtained. In rainforests it may be possible to detect from satellite images areas which have been disturbed due to selective logging, and apply a multiplier (using a gain-loss approach) based on expert knowledge of the typical reduction in standing volume that is caused by selective logging in the area. In forests where degradation is more gradual and more widespread, as a result of diffuse local livelihood related uses, this is more difficult. It is possible that a conservative, nominal rate of past degradation may have to be used, differentiating different types of forest under different management regimes and pressures. The alternative in these areas would be to ignore degradation in the REL (i.e. assign it a zero value) and account only for forest enhancement from the time that the REDD+ activities start. Forest enhancement is likely to be much greater on an annual basis than the former rate of degradation. Forest enhancement can be measured relatively easily and reliably at the ground level by the communities and forest users, as the various experiences described in this book attest.

Within a national REDD+ programme however, it may be necessary to establish baselines for different units of the forest where REDD+ activities are taking place, in order to assess the effectiveness of such activities and possibly to create an accounting tool for the distribution of incentives and rewards internally. Such nested baselines would of course have to sum to the national REL to create a coherent frame of reference.

3.3 Establishing an internal accounting system and database

Not all activities within a national REDD+ programme will be tied to specific parcels of forest, for example changes in forest policy and capacity building may have generalized

effects. However many activities will be focused on specific areas and involve changes in behaviour by specific forest users. Many countries therefore propose to use an incentive system to reward forest users, on the general lines of Payment for Environmental Services (PES), as is discussed below. An internal accounting system may then be needed not just to estimate overall achievements but also to identify who is responsible for what achievements and where. One function of this monitoring system will be to back up national claims to carbon credits on the international market. But more important, it will be needed as a management tool to guide the national REDD+ programme itself.

Participants would need to register within the national system, which will inevitably involve meeting certain basic requirements, such as proof of property rights (customary or otherwise), evidence that ownership is not contested by others, a geo-referenced map of the forest concerned, and for the case of community held or managed forest, statutes which meet a minimum standard as regards social inclusion and equity. A plan for improved management and a baseline against which improvement can be compared would probably also be required, all of which would involve transaction costs.

Periodic reporting on forest areas gains and losses and stock changes within the forest would be necessary, whether carried out by the forest users themselves or by other means. Careful decisions will have to be made concerning the standard of data required. The IPCC Good Practice Guidance for Land Use, Land Use Change and Forestry (IPCC, 2003) defines three tiers relating to data accuracy, ranging from Tier 1 which has national or even regional default values for both emission factors and activity data, via Tier 2 that requires activity data that are source specific but allows the use of default emissions factor data, to Tier 3, which implies location specific activity data and

emission factors. Measurements by the forest users (for example, communities) would produce Tier 3 level data at a high level of accuracy, but involves both local monitoring and later verification activities, so that the cost effectiveness of this approach would have to be considered. To store all the data (at whatever level of accuracy) it is clear that a sophisticated database would be required, which for reasons of transparency would probably have to be open to public scrutiny. If countries are to participate in any REDD+ mechanism it is likely that the Common Reporting Formats currently used in National Greenhouse Gas Inventories would be extended to cover REDD+ emissions and removals.

3.4 The selection of policies and projects within the national REDD+ programme

Although from the international perspective, REDD+ will operate as a national, sectoral programme with central accounting as regards credits, as mentioned above it is clear that within any one country there may be need for an internal system of projects. The purpose of this would be to promote investments and incentives that will encourage specific stakeholders to improve their forest management practices and reduce their proclivity to clearing forests for other uses.

Choices about strategies and incentives will be selected by each country in accordance with its own local conditions and experience, and even matters such as the extent to which carbon revenues are made over to the stakeholders responsible for achieving reductions will probably not be the concern of the UNFCCC. Indeed guidelines from the UNFCCC will probably allow a great deal of freedom to countries as regards the design of their national programmes and the strategies that are promoted to reduced levels of deforestation and degradation. However, because of concerns raised in the

negotiations that forest dependent people may suffer, for example by being expelled from forest areas over which they have no formal tenure but on which they are dependent for their livelihoods, there are likely to be some requirements for social impact assessments or guarantees by countries that these kinds of negative impacts have been avoided.

One of the most difficult aspects of a national REDD+ programme will be selection of strategies which effectively combat emissions from forests and encourage forest enhancement. Here there is first the question of whether to focus primarily on deforestation, and therefore on legislation both national and local which would control land conversion, or to include reduced degradation. Community forest management is much more attuned to combating degradation than at forming a bulwark against deforestation, not least because deforestation is frequently driven by non-local actors (albeit with the complicity of local people) and the economic stakes behind it tend to be much higher.

The choice of strategies within the national REDD+ programme will necessarily reflect the local context i.e. the nature of the current drivers of deforestation and degradation and the local opportunity costs of deflecting these. Apart from questions concerning the efficacy of different interventions in countering the main drivers, it is by no means clear that the revenues expected from compensation for the greenhouse gas emission reductions through the REDD+ mechanism will be sufficient to cover their opportunity and transaction costs. A cost-effectiveness analysis will need to be carried out to determine which strategies are likely to bring in higher relative benefits.

In this regard approaches which support community forest management (CFM) may be among the more advantageous. The costs of bringing forests under community management are relatively low and unlike many other forest policies, CFM is not

usually contested by politically powerful lobbies. Moreover experience has shown that (in low value forest at least) community management is often successful in halting degradation, if not deforestation, and is popular locally. What would be necessary at the level of national policy would be to clarify what level of incentives would be offered to communities to bring their forests under a sustainable management regime, as well as how to organize this. Some of the main issues that would be involved are discussed below.

3.5 Organising payment systems

Designing an incentive scheme based on payments for carbon environmental services is not a simple matter. It will involve a number of political choices which may be hard to make. The first concerns whether communities already engaged in CFM would be eligible for such payments, or only communities which start up forest management schemes specifically to benefit from the national REDD+ programme. Although existing CFM schemes would not be (internally) additional, there would likely be considerable political opposition if only newcomers were to be paid. A related question would be whether any community could register to participate, or only communities that are located in areas currently under threat from deforestation and degradation.

Secondly, there is the question of the basis on which payments would be made. At least three alternatives are possible: on the basis of outputs (tonnes of carbon emissions reduced or sequestered over a given time period), on a flat rate per hectare basis, or on the basis of estimated opportunity costs. It is clear that some communities would have much greater potential to 'earn' on REDD+ than others in an output based system (those communities in areas with higher natural growth rates, and those with larger areas of forest per inhabitant). Moreover, communities which have conserved their forests well

over the last decade would be penalized compared to communities which had allowed their forests to become highly degraded, since the latter would have plenty of room for regeneration of stocks. This could clearly lead to conflict and dissatisfaction among potential participants.

Perhaps for this reason, most existing PES systems are based on a flat rate per hectare, which is paid provided the community can show that it has carried out the management tasks agreed. This is in some ways easier to administer than a quantitative, output-based system, and involves much lower transaction costs, but would not provide the strong incentive of an output related payment. Moreover, in order to claim credits, particularly for reduced degradation, the state itself would need the quantitative data on outputs from the local level, as has been explained earlier. On the other hand, a payment system based on opportunity costs would be efficient from the point of view of focusing on those areas in which deforestation and degradation could be combated at least cost, but this might also lead to perverse incentives and to resentment among potential participants.

In order to avoid the problems outlined above, and to reduce tension between would-be participants in the national REDD+ programme, the alternative proposed by the K:TGAL programmes is simply to pay communities to make the measurements (or rather to deliver accurate, reliable data on stock changes). Participating communities would have to agree to, and achieve, a minimum standard as regards forest management practice, which would be verified using independent methods, but would receive payment on the basis of the work that is necessary to produce accurate and reliable statistics on the changes in forest stock. A hybrid system in which they are paid firstly

for measuring, but also a bonus for particularly high stock increases would also be possible (Ben Vickers, personal communication), but systems in which payments are tied to output are much more vulnerable to fraud.

Thirdly there are practical questions such as whether (part) of the payment is made up-front, or all is paid at the end of the accounting period upon verification that carbon savings have been achieved, as well as who is to receive payment: the community as an organization, or individuals; whether the payment would be in cash or in kind, and whether the income would be considered taxable or not.

Underlying all of these is the more basic question of what proportion of the compensation funds or market value of the carbon credits would be made over to the people directly responsible for reducing emissions. The national apparatus for managing REDD+ will clearly also have to be financed from these external value of the credits, and how much will be left to trickle down to the grassroots is one of the most pressing questions that REDD+ faces.

3.6 Monitoring and verification

While the initial measurement of forest area and stock changes might be reported by the users (whether communities or individual forest owners) themselves, it is clear that at the national level there will be a need for independent verification of the related carbon claims. In addition there will be verification procedures at the international level. They could make use of community or forest user data but apply statistical testing and spot checking to verify it. This activity could involve the use of expert review teams made

up of government approved and recommended national expert, which is normal practice under the UNFCCC.

4. Conclusions on the role of community monitoring in REDD+

Community monitoring has been specifically identified as an important component within REDD+ methodology in UNFCCC discussions and documentation. Moreover CFM, whether or not associated with a PES system, has been identified by many countries as a strategy within their national REDD+ programmes, and CFM does deliver carbon benefits in many situations. It is clear that there are many opportunities for forest based communities in both these roles. At the same time, if community monitoring is to be a part of REDD+, it is crucial that the data is reliable. This means that there will be need for an information and data tracking system with feedback and possibly with penalties for falsified data.

However, there remain a number of important uncertainties and questions regarding how community monitoring could be utilized in national REDD+ programmes. These include the following issues:

- What kind of data will national REDD+ programmes require and are communities capable of delivering this?
- What methodologies could be employed by communities in monitoring carbon stock changes in their forests?
- How reliable will such community-based data be?

- Is the community approach to monitoring and reporting on carbon stock change more cost effective than other approaches to data gathering?
- Under what conditions will it be worthwhile for communities to participate in monitoring and reporting for REDD+?
- How can incentives be structured so that the temptation to fraud and deception in community reporting can be overcome?

These questions are the subject of a book which summarises the findings of the K:TGAL project (Skutsch, 2010), which is due to be published in December 2010.

Notes

1 The Copenhagen Accord was drafted at the 15th Conference of Parties to the UNFCCC in Copenhagen in December 2009 but at that time it was not signed by a sufficient number of states to be adopted. Negotiations have continued throughout 2010.

2 Formally, the second D in REDD refers to Developing Countries, but it has been taken by many to refer to forest Degradation.

3 Under the Kyoto Protocol, forest is defined in term of its canopy cover and tree height and countries may select thresholds of between 10 and 30% and 2 to 5m, on these variables respectively. Deforestation is said to occur when the biomass stock falls below these levels.

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