Splitting the Difference; a Proposal for Benefit Sharing in REDD+

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Abstract

The objective of REDD+ in developing countries is to create incentives for the reduction of emissions from deforestation and forest degradation and for the increase of carbon stocks through the enhancement, conservation and sustainable management of forests in developing countries. As part of the international negotiations under the United Nations Framework Convention on Climate Change it has not been specified how these incentives will be channeled within countries; there are concerns about how the benefits will be shared among different stakeholders. We propose that within national REDD+ accounting systems, credits for carbon enhancement and sequestration should be separated from avoided emissions from deforestation and forest degradation; the first group of credits can be attributed directly to landowners, communities and independent projects managing the forests while the second can be attributed to governments who are in charge of controlling illegal deforestation and degradation at the national level. This separation can help to create adequate incentives for the different stakeholders and overcome some of the problems associated with the design and implementation of national REDD+ programmes.

Keywords: avoided emissions; carbon enhancement; forest management; positive incentives.

Introduction

Under UNFCCC policy on Reduced Emissions from Deforestation and forest Degradation (REDD+), carbon credits will be issued to countries which demonstrate that they have reduced the aggregate national rate of emissions from deforestation and/or degradation, and/or increased the rate of sequestration of carbon in forests (enhancement of forest stocks). Parties negotiating at the UNFCCC have been clear that national level accounting based on national reference levels is essential in the long run [1,2], although in early phases of implementation of REDD+, reference levels and accounting might be used at sub-national jurisdiction levels (that is, at province or state level). One of the practical difficulties in implementing national REDD+ programmes is how to distribute the financial benefits derived from sale of carbon credits among the many stakeholders who may have legitimate claims [3] In particular, there are fears that that a large part of the financial rewards would remain in the hands of government authorities and that local level owners and managers (often seen as forest based communities) might receive very little of the benefit [3,4,5]. The difficulty is that there are many stakeholders who might legitimately expect a share of the benefits to cover their costs in facilitating REDD+, for example intermediary organizations and government agencies at various level, but there is no obvious way to determine ´fair shares´.

This is however not the only challenge as regards distribution of benefits. There is also the question of what to do if losses in the country as a whole exceed the gains made by project activities, which, under a system of national accounting, would mean that there would be no credits to share at all. Further, there is the question of which particular forest owners to pay for *not*-deforesting, since in a national programme it is very difficult to determine which of the many were really planning to cut their forests, but decided instead not to. There may also be doubts about the legal position as regards ownership of carbon credits.

To deal with all of these issues, we propose that credits within the national carbon accounting system should be divided into two streams, with all credits for increases in carbon stocks to be attributed to the direct implementers of forest management activities (for example, in projects involving forest mangers/owners and communities) and all credits for avoided emissions from deforestation and degradation (D&D) to be attributed to government authorities. We first describe how the different elements of REDD+ fit within IPCC categories for emissions and removals, and explain the reasons why a national approach is fundamental to the integrity of REDD+. We then explain the nature of the challenges involved as regards distribution of credits, and finally we show how splitting the crediting field provides a solution to most of these issues.

The nature of carbon savings under REDD+

IPCC guidance for inventories of greenhouse gas emissions from deforestation and forest degradation includes assessment of all changes in carbon stock which result in emissions and removals [6]. Four categories of activities and impacts are specified, as shown in Table 1. To this we have added the elements of REDD+ that relate to each activity.

Activity	Impact in Carbon Stocks	REDD+ element
Conversion of forests land to other land uses.	Emissions from deforestation	Reduced deforestation, conservation
Reductions in canopy cover and/or carbon density.	Emissions from forest degradation	Reduced degradation, conservation, sustainable management of forests
Conversion of other land uses to forest land.	Carbon sequestration (removals) through afforestation, reforestation.	Currently included under CDM; potentially forest enhancement in REDD+
Enhancement of carbon stocks in forests remaining as forest land	Carbon sequestration (removals) through restoration, enhancement, SMF.	Enhancement of forests, sustainable management of forests

Table 1: the relationship of REDD+ elements to IPCC definitions of GHG related activities

Under REDD+, reductions in gross emissions from deforestation and degradation will be quantified relative to a national reference emission level (REL); if removals related to restoration, forest enhancement etc are also assessed (net emissions), then the baseline is called a reference level (RL). The REL/RL represents what would have occurred without REDD+ intervention, based on observed historical trends and development plans. It is not yet clear whether the resulting credits will be sold through an international market, or be paid for through a special global fund. However, it is clear that the returns to REDD+ activities will be valorized on a strictly performance based metric, at least in the long run.

Given the many opportunities for enhancement of forest carbon stock in degraded forests, it has been suggested that many countries may want to opt for the net emissions approach [7]. However, capacity to develop credible RLs for this is lacking in most. Data on historical land cover change can be readily obtained from satellite imagery and combined with Tier 1 (default) or Tier 2 (national average) emissions factors to estimate losses due to deforestation. However, estimating historic rates of degradation (for which stock change data from non-existent past forest inventories would be needed) will pose a greater problem [8] and estimating rates of growth (enhancement of forest stock) across all forest areas adds one more level of complexity to this. The likelihood is therefore that in national forest carbon accounting, a gross emissions approach will be taken, focusing on deforestation, and with estimates for degradation characterized by a high level of uncertainty.

Rationale for a national REL and national accounting system

The main reason why the policy stresses national reference levels (or large scale territorial units in the run-up phases) is to contend with the issue of leakage [9, 10]. Direct leakage occurs when activities that generate emissions of carbon are displaced to other locations as a result of a REDD+ activity in any given project area. REL/RLs will

therefore need to cover large areas of forest, much larger than the individual forest parcels involved, since reductions in D&D may easily bring about displacement of emissions to other places. A national baseline is therefore considered to provide greater integrity with respect to the carbon credits being claimed.

However there are other important reasons for accounting for carbon at a national scale. While some REDD+ activities will be carried out at local level (for example improved management of timber extraction by owners of particular forest parcels), many others will be implemented at national level, for example, changes in forest laws and enforcement of existing forest laws, coordination of land use planning between different ministries, and changes in systems of agricultural subsidies. Such policies can be expected to have positive but diffuse effects, which cannot easily be attributed to individual forest owners or managers.

Challenges relating to distribution of carbon credits in a national REDD+ system

Under a national REDD+ system there may be many stakeholders, including not only the forest owners and managers who carry out management activities which reduce emissions and increase sequestration, but also a variety of intermediary organizations, which may incur costs related to facilitating REDD+ activities and which might therefore expect a share in the pay-offs. This could include government agencies at various level (national, state, municipality) and private sector bodies as well as NGOs. Although some of these costs may be covered by financial streams other than carbon credits (for example, REDD+ Readiness/early start funds may cover the costs of setting up MRV systems and regular government expenditures could be used to finance some stimulus programmes), others will have to be covered through fund or market based revenues derived from the credits. In short, the benefit distribution system needs to ensure that appropriate incentives are provided to all those stakeholders whose contribution is essential, according to their particular spheres of action.

A further aspect of this is that in a national accounting system, carbon gains in one region will be offset by losses occurring in other parts of the country. Good performance by communities or landowners in one region of the country may thus be cancelled out by losses elsewhere. This means that, in the worst case, they would not be entitled to receive credits or REDD+ revenues at all, even if the carbon losses in other regions were unrelated to leakage from the successful cases. The second problem is therefore how to ensure that despite this feature of national accounting, successful participants can be sure of receiving credits, since this is their incentive for participation and for good performance. It is a not only a problem for the forest holders, but also for sponsors abroad who may invest in setting up decentralized REDD+ projects, and need assurance that successful efforts will be rewarded with credits, regardless of what goes on in other parts of the country.

The interest of external sponsors and supporters brings with it pressure to allow at least some level of independent trading of carbon credits from local level activities. There is in any case a practical need to integrate current market based mechanisms for forest carbon into REDD+. Demand for carbon from independent projects is growing, as the thriving voluntary carbon market clearly shows [11]. Carbon brokers strongly support the notion of independent projects (sometimes referred to as ´nested projects´), citing advantages of the private sector [12], and this principle also has support for a wide

range of international organizations and REDD+ observers [13]. Hence the third problem is how to integrate such independent projects into national accounting systems.

A fourth problem concerns carbon property rights and legal ownership of the carbon credits, in the sense of who has the right to sell them or receive compensation for them from a fund. A large part of the literature in REDD+ supports the moral rights of forest owners, particularly communities, to the financial returns from sale of carbon credits [14,15]. Although the laws on property rights of individuals and communities to forest carbon have been established in only a few countries so far (Australia, Argentina), there are precedents that imply that carbon is akin to other tree products [16]. In most countries the products of trees belong to the owners of the trees. This would likely give the tree owners the legal right to exchange or sell at least the credits for increases in carbon stock as a form of ´non-timber forest product´ to whosoever they please, which could pose a problem as regards distribution of part of these benefits to other claimants. On the other hand, whether reduced emissions can be considered ´property´ is very much open to question, since these credits are issued for *non*-reduction of forest stock (the stock itself – which is clearly the property of the owner – does not change).
A fifth problem relates to the difficulties of identifying whom to pay for reduced deforestation. Deforestation follows a probabilistic path. Using a REL/RL, we may calculate the rate at which deforestation is occurring in a given area (say for example, 2% per annum, equivalent to two forest owners out of 100 clearing their land in any given year). The problem is that it is impossible to know *which* owners would have been going to clear their forest, since all of them could claim that this had been their intention and therefore all could demand carbon credits. The only fair way would be to divide the carbon credits for the two properties among all 100 owners, meaning that the returns to each individual would be negligible, and that the payments would be unlikely to operate as an incentive. Another thorny aspect of payments to individuals for not deforesting is the fact that deforestation is in many cases illegal. Public opinion in many countries does not support the concept of the paying people to obey the law.

Splitting the crediting field

There is an essential difference between forest stock enhancement, which involves additional sequestration, and reduction in the annual rate of forest emissions. Carbon enhancement in individual forest parcels relates largely to activities carried out by owners and managers in forest areas that were earlier degraded [17]; it is brought about by a shift to practice to sustainable management of extractive activities. The potential for the enhancement of carbon stocks will be given by specific site characteristics; for instance IPCC default values for greenhouse gas inventories indicate that biomass net yearly growth might range from values as low as 0.2 ton/ha in tropical African shrubland to up to 13 ton/ha in Asian tropical rainforest [6]. These increases in stock can be measured by the owners and managers through successive forest and soil inventories [17]; for this, no reference level should be required other than a stock measurement taken when the project begins. This would allow the compensation to forest managers according to their performance while at the same time reducing transaction costs. Preliminary studies indicate that the ratio of forest enhancement to reduced degradation (in tons per hectare) could be around 3:1 [17], depending on the ecosystem and the extent of earlier degradation.

Forest enhancement could constitute a first field of crediting and we propose that all credits from forest enhancement and carbon sequestration should in principle be attributed to the owners/managers of the forest parcels concerned. This may also open the door for a future merger of afforestation and reforestation practices implemented under Kyoto CDM arrangements with REDD+. Under gross emissions accounting and its associated REL, these carbon gains would in any case not be included in the national baseline. Forest enhancement credits, or financial rewards based on these, could be channeled to forest holders both in independent projects and in public sector enhancement/sequestration programs, similar to the payment for environmental services programmes offered by e.g. Mexico and Costa Rica. It is to be expected that the latter approach will form part of the REDD+ approach in many countries, since it could facilitate much greater levels of participation, and under large government initiated schemes of this sort, transaction costs would be reduced as a result of economies of scale. There would of course (as in any crediting programme) be a requirement for independent verification. Additionality could be assured through validating only those forest parcels in which it has been ascertained (e.g. through qualitative judgment by independent forest auditors) that prior to the programme, the forest parcel was either undergoing degradation or was degraded with a low but stable biomass level (i.e. it was not in the process of unassisted recuperation).
The second field of crediting could be set up based on reductions in deforestation and degradation (D&D relative to the national RL, over the accounting period). The country may be still emitting carbon from D&D, but if this falls below the REL or the agreed crediting baseline, the difference will be credited. Reductions in D&D are often achieved by public policies more than by changed management practices at the local level, for example, through the rationalization of policies on agricultural subsidies, strengthening of forest law and enforcement of existing law, and raising awareness about the dangers of loss of forests. Depending on the REL, there would be an *expected* amount of emissions from *legal* land use changes and activities envisioned in development plans; one of the main roles of the government under REDD+ would be to monitor and enforce the existing regulations to avoid *unplanned* emissions associated with *illegal* activities. We therefore propose that all credits relating to reduction of emissions from D&D, including those in areas over which projects are claiming forest enhancement, should in principle be estimate by, and attributed to, government authorities, and not to the forest owners/managers. Participating owners and managers of forest parcels would not need to make any estimates of avoided deforestation or avoided degradation, relieving them of the need to set up local baselines for this and reducing their transaction costs. In order to earn D&D credits, government would of course have to initiate policies and measures that are effective and that reflect local realities and needs, which would likely require a strongly participatory approach

What we are proposing in essence is that national RDD+ programmes should use a gross emissions accounting procedure with a REL, and claim credits on this centrally. Outside of this, forest carbon enhancement credits could be generated by projects, which are in a better position to make detailed, on the ground inventories to back up their credit claims. Such projects could be independent (´nested projects´) or they could be part of a government initiated programme. Either way these credits, once verified, could be a source of revenue, and this would be of benefit to the country indirectly, enabling it in the larger economic picture to take advantage of the opportunities of forest enhancement without including it within the sphere of national accounting under the REL.

Conclusions

By separating carbon crediting into these two streams a system is created which is better able to generate appropriate incentives for all actors, for the following reasons:

1. It provides a transparent accounting principle for allocating credits between forest owners/managers and the government sector, based on a clear policy rationale. Credits attributed to the public sector would still need to be divided between different claimants in this sector (between different ministries and between the national, regional and local levels). Likewise the financial rewards for enhancement credits would have to be divided among members of communities, for those cases in which forest managers are not individuals but groups; but a step in the direction of a fair and legitimate distribution system is made.

2. It deals with the danger that owners/managers of forests which have achieved carbon gains through improved management will be deprived of credits because of losses elsewhere in the system. Governments would not claim any forest enhancement credits in areas under management by communities and forest owners, and no leakage is expected from enhancement, so each local participant would be free to claim the enhancement credits measured on site. Forest enhancement would not appear in the national REL, which would be based solely on emissions due to D&D. Leakage from reductions in deforestation and/or degradation would be subsumed under the national REL.

3. Independent trading of credits for forest enhancement would be facilitated since these credits would clearly be the property of owners/managers, and would not have to be deducted for credits attributable to the country as a whole. In other words, it would not be necessary to reconcile project carbon achievements with those at the higher jurisdictional level, i.e. at the national or state level [15], making accounting more straightforward.

4. It supports the legal notion that carbon ´cultivated´ on trees belongs to the owner of the trees. Reductions in loss of trees (and carbon) cannot be considered ´property´ of the forest owner in the same sense, and therefore there is a clear legal basis for allocating credits for reductions in D&D to the public sector. Moreover, it avoids the moral hazard of paying people not to commit the ´crime´ of deforestation.

5. The problem of whom to pay for avoided deforestation is side-stepped since individual owners/managers would not be considered for such payments.

There remain some problems relating to distribution of REDD+ benefit; some projects for example may result in major reductions in deforestation, for which they would receive no returns. In such cases it might be necessary for them (on an individual basis) to negotiate a share of the credits or some alternative form of reward, from the government. Division of D&D credits between different tiers of government may also be a tricky issue. Nevertheless, we believe that the principle of splitting credits in the way we have suggested will help to make national REDD+ programmes political acceptable and provide the fundament for a benefit distribution system which generates appropriate incentives for all stakeholders.

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