Moving Ahead with REDD

Issues, Options and Implications

Edited by Arild Angelsen

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Chapter 4

What is the right scale for REDD?

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4.1 Introduction

Reducing emissions from deforestation and forest degradation (REDD) is a proposed financial mechanism which would provide developing countries with incentives to reduce forest sector emissions. REDD could become part of the international climate agreement currently being discussed within the United Nations Framework Convention on Climate Change (UNFCCC). A key question in the debate concerns the geographical level (spatial scale) for accounting and provision of incentives for REDD activities should be offered. Should REDD accounting be at: (i) subnational (or project) level; (ii) national level, or (iii) both levels (nested approach)? This chapter first describes the three approaches to REDD and then assesses the carbon effectiveness, cost efficiency and equity ('3Es') implications of each.

The differences between subnational, national and nested approaches are often blurred. One reason for this is that 'spatial scale' means different things in different proposals. In this chapter, *scale refers to the accounting level of an international funding mechanism.* The level of *accounting* would typically be closely linked to the level of *crediting* (payment), although credit-sharing

arrangements between national and subnational levels may haze the distinction between scales. The level of *implementation* is of secondary importance: implementation at the national level may include both nationally-implemented projects and a national REDD strategy that credits projects implemented by others. Similarly, a subnational project approach to implementation can be backed-up by good national policies that make achieving project objectives easier.

4.2 Three options for the scale of REDD

4.2.1 Subnational approach

Figure 4.1 illustrates the difference between the three options. The subnational approach proposes that REDD activities would be implemented in a defined geographical area, or as projects by individuals, communities, non-governmental organisations (NGOs), private companies or national or local governments. As with all three approaches, crediting REDD activities would require internationally agreed rules for monitoring, reporting and verification (MRV), a system for crediting (payment), and institutional arrangements at both the national level (e.g. a designated national authority or similar entity that approves all projects) and the international level (e.g. a supervisory body and a centralised project and credit registry).

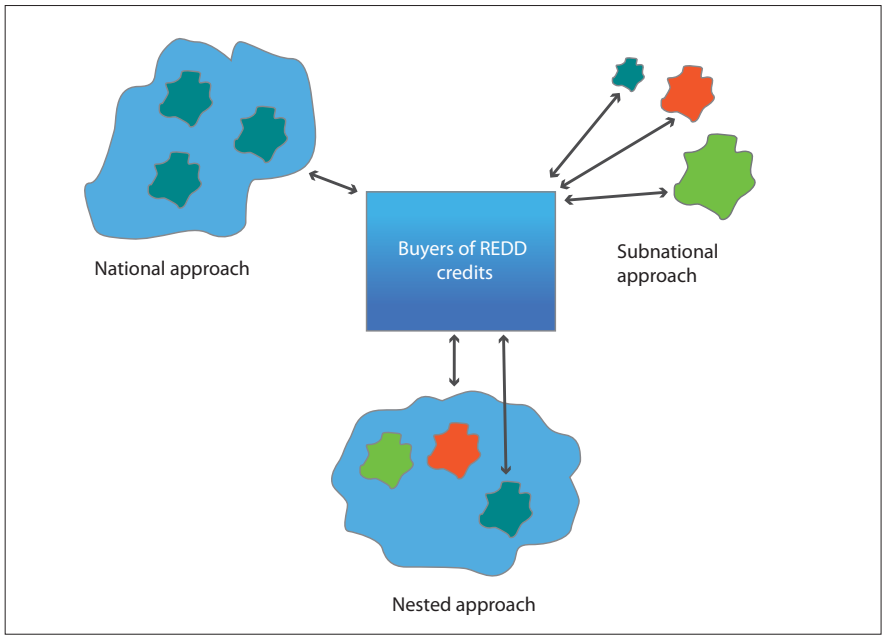

Figure 4.1. The three approaches to REDD accounting and and crediting
Note: Arrows indicate money from the international buyers and information from the (sub)national entities.

The modalities and procedures developed for the Clean Development Mechanism (CDM) under the Kyoto Protocol could serve as a model for the institutional set-up. The CDM allows developed (Annex I) countries to offset their greenhouse gas emissions by supporting projects in developing countries that reduce emissions. In the forestry sector, only afforestation and reforestation (A/R) projects are currently eligible and, so far, only one project has been approved. The CDM has proved more successful in other sectors, particularly in energy. CDM had a primary market value of USD 7.4 billion in 2007 (Hamilton *et al*. 2008). Progress of A/R CDM projects is slow because the complex rules, methodologies and registration costs make transaction costs very high. Other obstacles are the lack of transferability of the temporary credits assigned to projects and the exclusion of temporary credits from the EU Emission Trading System (ETS). The ETS is by far the largest carbon market, with a volume of USD50 billion in 2007, or 78% of the global carbon trade (Hamilton *et al*. 2008).

Another example of a subnational approach is the voluntary carbon market in projects for preventing deforestation. The transactions in the voluntary carbon market reached USD330 million in 2007 (forestry-related projects comprising 18% of market share), which was less than 5% of the CDM primary market. Eighty per cent of the transactions in the voluntary carbon market involved private sector buyers (Hamilton *et al*. 2008).

Given the relative success of CDM in other sectors, its established institutional structure and the difficulties some countries may have in taking a national approach to REDD, some Parties to the UNFCCC argue that a project-based mechanism should be included in the global REDD framework, e.g. the recent submission to UNFCCC by Paraguay on behalf of Argentina, Panama, Peru, Paraguay and Peru (see Appendix). The post-2012 negotiations under the Kyoto Protocol (Article 3.9) also include discussions on REDD in CDM. However, the negotiations should recognise that the limited success of A/R projects suggests that a project-based REDD approach cannot simply replicate the CDM model.

4.2.2 National approach

Most country submissions to UNFCCC advocate a national approach. This reflects their previous experiences with leakage and transaction costs in project approaches. The national approach also addresses sovereignty issues. It acknowledges that combating deforestation entails broad policy changes and thus has the potential to achieve larger-scale and more permanent reductions than subnational or nested approaches.

Governments taking a national approach would establish a national system for MRV and would be rewarded for emission reductions measured from an established reference level (discussed in Chapter 6). Reductions would be rewarded by allocation of tradable carbon credits, financial transfers from a global fund or other mechanisms. In the national approach, no direct credits would be issued *internationally* for activities that reduce emissions at the subnational level.

In order to access international incentives, each participating country, depending on its circumstances, would be responsible for implementing policies and measures to reduce emissions from deforestation and forest degradation over its entire territory. Policies and measures might include a system to provide credits (payment for environmental services, or PES) to local communities. A major advantage of the national approach is that governments can put in place a broad set of policies and actions to reduce deforestation and forest degradation.

4.2.3 Nested approach

Given the diverse national circumstances, a number of UNFCCC submissions suggest integrating subnational activities into a national accounting framework through a 'nested' approach (first presented coherently by Pedroni *et al.* 2007). Taking this approach, countries could start REDD activities at any level. Those that decide to start at the subnational level could scale up to a national approach as they strengthen their capacity and improve governance. Transition to a national approach would be mandatory, either within an agreed time frame or when an agreed percentage of forest area is covered by REDD projects, whichever comes first.

Although the transition to a national approach would be obligatory, it would still be possible to credit individual project activities. The nested approach therefore has two unique features: Firstly, the capacity to scale up from a subnational to a national approach over time. Secondly, countries have the option to account for and receive international credits at subnational and national levels simultaneously (see Figure 4.1). Also, different countries could use different crediting mechanisms at the same time.

In a nested approach, where accounting and crediting takes place at both subnational and national levels, procedures for MRV and setting reference levels would need to be harmonised. An arrangement for sharing credits between the two levels could be modelled on the Kyoto Protocol Joint Implementation (JI) mechanism. At the end of each accounting period, the country would have to deduct all credits issued and committed at subnational level from national credits for country-wide emission reductions (see Box 4.1).

Should the national level fail to deliver carbon benefits, independently validated and verified subnational activities would still be credited.

Box 4.1. How a nested approach might work

A project generates 1000 tonnes of carbon dioxide emission reductions during the accounting period. The country's overall reduction (carbon credits) is 5000 tonnes during the period. The 1000 tonnes already credited to the project have to be deducted from the national balance. To allow for project-level leakage, monitoring, reporting and verification (MRV) costs, and the risk of non-permanence (higher emissions in the future), the government may retain a certain share of the carbon credits assigned to the project. Thus, the government and the project might make a deal that the project keeps 70% of the credits while the government keeps 30%. In this scenario, the project would keep 700 credits and the government 4300 credits.

Even under an exclusively national approach, a country could also allocate some of the national credits to projects. This would reduce deforestation and degradation, and compensate districts, communities and farmers for the cost of forest conservation. In other words, a country could establish a national system for Payments for Environmental Services (PES) that extends the global REDD system to the local level. In a nested approach this would be considered part of the international agreement, whereas it would *not* be in an exclusively national model.

4.3 Assessment of the three approaches

The merits of the three approaches can be assessed in relation to the '3E' framework, elaborated in Chapter 2: Is the mechanism achieving its greenhouse gas emission targets (carbon effectiveness)? Are these targets achieved at the minimum cost (cost efficiency)? What are the distributional implications and co-benefits (equity and co-benefits)? This section assesses each criterion, and is summarized in Table 4.1.

4.3.1 Effectiveness

In terms of carbon effectiveness and emission reduction goals, the differences between the three approaches can be assessed in three main dimensions: (i) ability to deal with leakage and additionality; (ii) overall level of participation, which will influence overall emissions reductions achieved; and (iii) broad policy reforms, which will influence the depth, cost and permanence of reductions.

Table 4.1. Pros and cons of subnational, national and nested approaches

REDD model	Criteria		
	Effectiveness	**Efficiency**	**Equity and co-benefits**
Subnational approach	+ Broad short-term participation + Attractive to private funders – Domestic leakage a problem – Does not trigger the required policy changes – Weak involvement of host countries	± MRV costs lower overall but higher per CO_2 equivalent + Differentiated incentive payment possible: lowers costs	+ Easier participation by poor countries and those with weak governance + Can target poor domestic groups and create more opportunities for community participation
National approach	+ Broader set of policies pursued + Captures domestic leakage + Stronger host country ownership – Unsolved issues of reference levels (additionality)	+ Lower MRV and transaction costs per CO_2 equivalent + Low-cost (non-PES) policies available – Potential for policy and governance failure	+ Potentially larger overall transfers + Better alignment with national development strategies – Favours middle-income countries – Risk of high level and elite capture ('nationalisation' of carbon rights)
Nested approach	+ Combines strengths of other two approaches + Flexibility based on national circumstances + Potential for larger overall transfers - Unsolved issues of reference levels (additionality)	+ Differentiated compensation pay and low-cost broad policies - High MRV costs (requires disaggregated national data) - Challenges in harmonising national and subnational	+ Increased country participation and larger transfers to poor countries + Possible to target poor groups

National approaches must set credible national reference levels (credit baselines) and address questions of permanence and liability (discussed in Chapter 8). International negotiations have not yet resolved all the issues associated with doing this. There is a real risk that, because so many criteria for setting baselines are being discussed (e.g. national circumstances), baselines may be

inflated, which will generate 'tropical hot air' (no additionality) (see Chapter 6). This would undermine the effectiveness and also the long-term credibility of national systems.

The geographical scope of national and nested approaches is potentially much larger than the scope of subnational approaches, thus addressing the problems of domestic leakage in accounting and thereby achieving greater effectiveness (M-Co Consulting, 2008; see also Chapter 7).

Currently, most developing countries cannot take a national approach because their MRV infrastructure is inadequate. This raises the problem of international leakage. The flexibility of the nested approach should permit most countries to participate sooner, either taking a (temporary) project approach or a national approach, or by pursuing both simultaneously. The choice will depend on their capacity for MRV, whether or not they have institutions in place to handle REDD funds and the nature of their national REDD strategy. The flexibility of the nested approach and the scope for broad participation should result in lower emissions compared to the other approaches.

Private investors may be reluctant to buy emission reductions from countries. They may prefer to invest in 'tangible' forest projects, which are directly associated with emissions reductions and other benefits, such as conserving biodiversity and reducing poverty. Because they have limited or no control over host country risks private investors are also less likely to invest upfront in emission reductions at the national level than directly in forest projects. This could exacerbate the problems of limited country participation.

Reforms such as changes to land tenure and improving governance could be key elements of a national REDD strategy. However, it would be difficult to trace the effects of such reforms to particular geographical areas. Also, these kinds of reforms would generally not fall within the scope of a subnational or project-based approach. Thus, national approaches are likely to encourage broader and more strategic policies compared to subnational approaches, and lead to deeper and longer-term emissions cuts.

4.3.2 Efficiency

The cost efficiency of the three approaches to REDD is likely to be affected by: (i) the costs of monitoring, reporting and verification (MRV); (ii) the costs of implementing policies; and (iii) opportunity cost payments.

A national MRV infrastructure has significant economies of scale. This means that the national approach is likely to be more efficient than nested and subnational approaches in terms of cost per unit of carbon dioxide emission

reduction or area covered. For example, an exclusively national approach would not necessarily require disaggregating data to regional or district levels, reducing the number of sample plots that need to be monitored. The nested approach costs more than the national approach because monitoring and accounting must be at both national and subnational levels (disaggregating national level data is costly).

A second element affecting efficiency is the cost of implementing REDD policy. Implementing a system to credit subnational units (a national PES system) incurs costs such as the cost of registering projects with central institutions, the costs of validation and verification, and the costs of administering contracts. Economies of scale favour nationwide implementation. However, while a national system may have the potential to generate greater emissions reductions at lower cost, bureaucracy and corruption could make a national system inefficient. A subnational approach may have higher overall transaction costs per unit of emission reduction, but may be run more efficiently. Subnational approaches would typically take the form of small projects managed by private entities that have experience in carbon market mechanisms and that prioritise cost efficiency.

National approaches may include broad policy reforms. Many of these will be cheaper to implement than payment for environmental services (PES) schemes. In some cases reforms might even generate savings, such as by removing subsidies that stimulate deforestation and degradation.

The opportunity costs of forest conservation (typically the profits from agriculture and timber harvesting that could be generated from the land) vary greatly among those who hold rights to use forests. If rights holders could be compensated according to the specific opportunity costs they incur, overall costs would be substantially lower. In a study from Brazil, Börner and Wunder (2008) estimate that perfectly differentiated payments save 45-75% compared to uniform compensation.

Introducing differentiated payments might be more realistic in a subnational approach than in a national system where the transaction costs of doing so would be higher. However, introducing differentiated payments does raise equity issues as some of the poorest rights holders also have the lowest opportunity costs. The difficulties experienced in excluding non-additional activities (leading to inefficient payments) can be seen in the national PES system in Costa Rica (Karousakis 2007).

4.3.3 Equity

Equity is an issue that needs to be addressed between countries (international) and within countries (intra-national). The latter is to a large extent determined by national REDD strategies and policies. Although an international REDD agreement is likely to be 'implementation neutral', in the sense that it will not specify which national policies are to be implemented, the global REDD regime will have implications for domestic distribution of benefits and costs.

At the international level, a regime allowing only national approaches to REDD could exclude most of the low-income countries on grounds that they have inadequate infrastructure for MRV and poor governance. Thus, the international flow of money could be skewed towards a few middle-income countries, such as Brazil. However, subnational approaches might not necessarily be better in this regard, as illustrated by the CDM experience. In 2007, 73% of all CDM credits sold were 'made in China' (Hamilton *et al.* 2008). This points to the need – irrespective of the approach chosen – to strengthen national capacity and institutions and, more generally, to improve governance and accountability to ensure participation of the poorest countries.

In terms of intra-national equity, a centralised national approach could limit the participation of rural communities in the design and implementation of REDD. This could result in inequitable sharing of benefits and the 'nationalisation' of carbon rights. Large new financial flows may increase the risk of corruption and be captured by the state, preventing the benefits from reaching the poor. Governments also have decidedly mixed track records in promoting inclusive decision-making processes (Foti *et al.* 2008) and may have little incentive to ensure broad local participation in REDD. If processes in national approaches are inequitable, they may result in inequitable outcomes. On the other hand, a national approach may align with national development strategies and bring long-term development benefits.

Smaller scale subnational and nested approaches may be more flexible than larger scale national approaches in responding to needs in specific contexts. Evidence from some carbon-credit forestry projects suggests that they can strengthen local capacities, participatory decision making and community-based resource management (Corbera 2005). However, private investors and conservation NGOs have a mixed track record when it comes to factoring community concerns into their projects. Carbon markets are driven primarily by global climate protection objectives, rather than local socio-economic objectives. Both subnational and national approaches are likely to face challenges in this area, but the drivers shaping the level of participation, along with the actors and processes involved, will be different.

4.4 Summary and concluding remarks

Three approaches to the geographical level or scale of REDD accounting and incentive mechanisms are under discussion: direct support to projects (subnational level), direct support to countries (national level), or a hybrid ('nested') approach combining the two.

A subnational or project approach allows for early involvement and wide participation, and is attractive to private investors. However, this approach may suffer from leakage (increased emissions outside project boundaries) and cannot address the broader forces driving deforestation and forest degradation.

A national approach allows pursuit of a broad set of policies, addresses domestic leakage and creates country ownership. In the short to medium term, however, this approach is not feasible for many countries. It is also susceptible to governance failures, and may be less likely to mobilise private investment or involve local government.

A nested approach is the most flexible. It allows countries to start subnational activities and gradually move to a national approach. The nested approach allows both approaches to coexist in a system where REDD credits are generated by both projects and government, thus maximising the potential of both subnational and national approaches. However, a challenge in a nested approach is to harmonise the two levels.