



Global and national REDD+ architecture

Linking institutions and actions

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- The global REDD+ architecture will influence the design and implementation of national REDD+ schemes. However, the nature of the global architecture is not yet clear and will probably evolve quickly over the next few years. To deal with uncertainties, countries should adopt flexible mechanisms and can implement REDD+ schemes in stages.
- Realising REDD+ within countries means paying attention to three key elements: incentives, information and institutions (the 3Is). *Incentives* consist of performance-based payments and changes in policies. Countries need to provide reliable *information* on realised changes in forest carbon stocks to qualify for funds from international sources. Effective *institutions* are needed to manage information and incentives.
- REDD+, as part of nationally appropriate mitigation action (NAMA), offers opportunities to harmonise national mitigation actions across sectors and to redirect development toward low carbon economies.

Introduction

REDD+ started as a global initiative and much of the debate has been about the global architecture. But, although the incentives for REDD+ will be

set at the global level, realising REDD+ will require action at national and local levels. Tropical forest countries will have to redirect their budgets and administration, undertake reforms and reorient their economies toward low carbon emissions.

The problem facing countries looking to put REDD+ in place is that the global REDD+ system has not yet been decided, although it is gradually taking shape at meetings of the United Nations Framework Convention on Climate Change (UNFCCC), in particular at the annual Conferences of the Parties (COPs). The development process will probably continue for the next few years. Meanwhile, REDD+ is likely to be put in place in stages, as discussed below. Perhaps the greatest uncertainty surrounds the international funding that could be made available for REDD+ – the amount, timing and conditions. Planning for REDD+, therefore, must be flexible.

We are likely to see different REDD+ systems emerge. The current global focus is on UNFCCC negotiations. If REDD+ is linked to carbon markets, the main funding sources are likely to be the European Union Emission Trading Scheme (ETS) and the US carbon market. Avoided deforestation is currently not included in ETS and it is uncertain whether it will be included in the near future. In the USA, proposals are on the table to include REDD+ as an offset option. Other national or regional carbon markets and voluntary markets are also likely to emerge or develop further. Standards will probably vary between markets, introducing yet more complications for countries that want to implement REDD+.

This chapter first reviews the main features of the global REDD+ architecture currently being discussed as part of the UNFCCC negotiations. The global architecture will influence the design and implementation of national REDD+ strategies and policies. The second part of the chapter describes the main features of national REDD+ architecture. This framework will be discussed in several subsequent chapters.

Global REDD+ architecture and implications for national REDD+

Phased approach

Several countries have put forward proposals on how to incorporate a REDD+ mechanism into a post-2012 climate regime. One important and increasingly accepted proposal is for REDD+ implementation in three – possibly overlapping – phases (Meridian Institute 2009a, b). In the first ‘readiness’ phase, countries prepare a national REDD+ strategy through inclusive multistakeholder consultations, start building capacity in monitoring,

reporting and verification (MRV), and begin demonstration activities. The second phase is ‘more advanced readiness’, but the focus is to implement policies and measures (PAMs) to reduce emissions (as set out in the national REDD+ strategy and which will be verified by proxy indicators). The third phase is full UNFCCC ‘compliance’. In this phase, tropical forest countries are compensated solely for reduced emissions and enhanced carbon stocks relative to agreed reference levels.

The advantage of the phased approach to REDD+ lies in its flexibility: countries can participate according to their capacity and have incentives to progress from one stage to the next. This means that a wide range of tropical forest countries will be able to take part in REDD+. For example, countries with sophisticated MRV systems, and sound institutional frameworks may start at phase 3. Other countries with less sophisticated MRV systems can start at phase 1 or 2, but have incentives to move toward more sophisticated systems so that they can graduate to phase 3. The incentive for graduating

Table 2.1. Elements of a phased approach toward REDD+

	Phase 1	Phase 2	Phase 3
Scope	RED/REDD/REDD+	REDD/REDD+	REDD+
Crediting scale	Subnational	Nested (both subnational and national)	Nested or national approach
Performance indicators	Strategy adopted Legislative and policy assessment completed Consultations conducted Institutions in place	Policies enacted Measures enforced Proxies for forest carbon changes	Quantified forest carbon changes (tCO ₂ e), compared to a reference level
Funding	Initial support for national strategy development and readiness activities (e.g., FCPF, UN-REDD, bilateral initiatives)	Funding from bilateral and multilateral sources and COP-mandated funds.	Primarily linked to compliance carbon markets, but might also be via global fund
MRV systems	Capacity development	Capacity development and basic monitoring capacities	Advanced monitoring capacities and setting reference levels

Source: Adapted from Meridian Institute (2009a, b)

from phase 1 to phase 3 is that by doing so, countries generate added and more reliable income from REDD+.

The sources of funds vary according to the phase of REDD+ implementation. In the early phases (phases 1 and 2), funding will come mainly from public sources. There could also be funding from voluntary markets, but this would be mainly for projects producing verified emission reductions (VERs). As countries develop more sophisticated MRV systems in phase 3, direct financing by compliance markets becomes feasible. Since carbon compliance markets could leverage more predictable and longer-term funding than public sources, countries that graduate to phase 3 could generate significant income from certified reductions in forest emissions.

Creditable REDD+ activities

In 2005, discussions focused only on ‘reducing emissions from deforestation’ (RED). As it became clear that forest degradation in some countries was an even bigger problem than deforestation, ‘avoided degradation’ – the second D – was officially endorsed at the 2007 COP13 in Bali and RED morphed into ‘reducing emissions from deforestation and degradation’ (REDD).

Subsequently, it was further recognised that there could be climate benefits not only from avoiding negative changes (deforestation, degradation) but also from enhancing positive changes, such as conserving and restoring forests (Angelsen and Wertz-Kanounnikoff 2008). This can be referred to as ‘removals’ or ‘negative emissions’ (cf. Box 1.1). This was expressed as the ‘+’, and ‘reducing emissions from deforestation and forest degradation in developing countries (REDD); and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries’ (REDD+) became official language at the 2008 COP14 in Poznan. This change in scope is illustrated in Figure 2.1 in the form of a U-turn (which is not to suggest that negotiations are moving backwards!).

Changes in:	Reduced negative change	Enhanced positive change
Forest area number of hectare	Avoided deforestation	Afforestation and reforestation (A/R)
Carbon density (carbon per hectare)	Avoided degradation	Forest regeneration and rehabilitation (carbon stock enhancement)

Figure 2.1. Creditable activities in a REDD+ mechanism

Source: Angelsen and Wertz-Kanounnikoff (2008)

An important question is whether or not this U-turn will be completed, i.e., whether afforestation and reforestation (A/R) activities will be eligible for REDD+. A/R projects are already eligible in the Clean Development Mechanism (CDM), and hence are already included in the global toolbox to mitigate climate change. Some disagree that forest plantations should be included in a global REDD+ scheme, because encouraging plantation forestry could threaten conservation of biodiversity (e.g., Greenpeace 2009). Others argue that forest plantations need to be part of REDD+ to make rules for land use planning consistent and, ultimately, so that there will be just one coherent system that accounts for all changes in terrestrial carbon stocks (e.g., proposals by Indonesia, India and China; see Parker *et al.* 2009).

Subnational, national and nested approaches

A recurrent issue in the REDD+ debate is the level at which accounting and providing incentives will take place. Three approaches are being discussed: direct support to projects (subnational level), direct support to countries (national level), or a 'nested' approach that combines the two (Angelsen *et al.* 2008; Pedroni *et al.* 2009).

The global REDD+ negotiations lean strongly toward a national approach for a number of reasons: countries would be free to pursue a broad set of policies, countries could account for and control domestic leakage, and countries could have a stronger sense of ownership. In the short to medium term, however, a national approach is not feasible in many countries. So, global REDD+ negotiations are considering a subnational approach as a first step toward national approaches (UNFCCC 2007: Decision 2/CP.13).

Many project-based REDD+ activities are already underway in response to the call for national demonstration activities to inform the design of a global REDD+ mechanism (UNFCCC 2007: Decision 2/CP.13), see Chapter 21. Projects attract private sector finance, and encourage early involvement and broad participation. Emission reductions realised by these activities are considered to be 'early action' and may become eligible for credits under a global post-2012 REDD+ mechanism.

A nested approach, the most flexible of the three approaches, allows countries to begin with subnational activities and to move gradually to a national approach. The nested approach allows both subnational and national approaches to coexist and allows both projects and government to earn REDD+ credits, in a similar way to the Joint Implementation (JI) mechanism under the Kyoto Protocol. The challenge in the nested approach is to harmonise the two levels. It represents the most likely scenario for REDD+ in many countries, particularly in the short to medium term when subnational activities will

continue and be credited by an international mechanism in parallel with national-level accounting and crediting.

Performance-based payments

A core idea of REDD+ is performance-based payments. That is, payments are conditional on the outcome of a REDD+ action. The main argument for payment for outcomes (as opposed to payment for inputs) is that linking incentives as directly as possible to problems will be most effective. For example, a payment for a policy reform cannot take into account how effectively a policy will be implemented, or whether other complementary reforms are also necessary.

In principle, performance-based schemes can be established for emissions or carbon stocks. For emissions, the net change in carbon stocks for a specific period – as compared with a reference level – can be used to calculate credits. For carbon stocks, payments could be based on the total carbon stock in a forest during a specific period, that is, on absolute levels and *not* the changes (emissions). The global carbon markets that are emerging trade emission reductions and, therefore, can be tapped to fund REDD+ activities (provided REDD credits are made fungible). Further, an emission-based approach targets the climate problem directly (i.e., the problem is emissions) and, therefore, provides countries and projects with a greater incentive than indirect approaches (Angelsen and Wertz-Kanounnikoff 2008).

One important requirement for performance-based payments is a capacity for MRV. Ultimately, in phase 3 of the implementation process, the performance indicators used to determine payments are quantified emission reductions or stock enhancements (tonne of carbon dioxide equivalent – tCO₂e). In phases 1 and 2, when MRV systems are less developed, interim performance indicators or verifiable proxies can be used to determine payments (Chapter 7). Proxies could be policies that have been enacted, measures enforced, consultations conducted, capacity enhanced, demonstration activities implemented, or proxies for changes in emissions and/or removals that have taken place (e.g., reduction in deforestation rates).

Performance indicators for policies and measures (PAMs) will be particularly important to leverage funds for phase 2 of REDD+ implementation. Many tropical forest countries are far from being eligible for phase 3, and need to make substantial investments in often costly policy reforms. The performance indicators for PAMs must, therefore, be internationally accepted and monitored. Tropical forest countries seeking to participate in an international REDD+ scheme will also need to adopt transparent design and implementation processes for REDD+ policies and measures.

Sources of funding

Since RED was put on the international negotiations table in 2005, the debate on finance has evolved significantly. From early, dichotomous discussions of fund versus market-based finance (Alvarado and Wertz-Kanounnikoff 2009), the debate now recognises that a variety of financing sources (voluntary contributions, market-based and fund-based finance) will be needed for REDD+ (Dutschke *et al.* 2008; Grondard *et al.* 2008; Meridian Institute 2009a), particularly in the early phases.

Funding in the three phases of REDD+ implementation is likely to come from different sources. Voluntary financial contributions (e.g., from the World Bank Forest Carbon Partnership Facility (FCPF), UN-REDD Programme, or bilateral initiatives) will be the main funding source for phase 1 (Meridian Institute 2009a). Bilateral and multilateral sources and COP-mandated fund-based finance, for example through the establishment of a global forest facility, will be the main sources of funds for phase 2 REDD+ national strategy implementation (Meridian Institute 2009b). Other ways to mobilise fund-based finance include market-linked approaches, where revenues are generated from auctions of emission allowances in Annex I countries (EC 2008; cf. Mexican and Norwegian proposals, see Dutschke 2009; Parker *et al.* 2009). Performance-based REDD+ finance could also be triggered by agreeing indicators (in the early stages of phase 2), or by setting national reference levels for forest carbon stocks so that changes in carbon stocks (or proxies) from the implementation of REDD+ policies (later stages of phase 2) can be measured. To monitor the effectiveness of policies requires appropriate data and capacities. A country's ability to provide these signifies a transition toward phase 3.

In phase 3, the changes in forest carbon stocks are measured against agreed reference levels. In this phase, emission reductions could also generate funds when sold as certified carbon credits on international carbon markets, and could become the main source of funding. But for carbon markets to exploit the full potential of REDD+ carbon credits, the inclusion of REDD+ credits needs to be accompanied by more ambitious targets for reducing global emissions.

Monitoring, reporting and verification and reference levels

The consensus on MRV is that a common methodology should be used for policy approaches (based on remote sensing and ground verification); that robust national forest monitoring systems and verification after the fact are required; and that there is a need for reference emission levels that take into account national circumstances.

Despite significant progress in the last few years, several questions concerning MRV are still being discussed in UNFCCC negotiations. These include which carbon pools should be monitored, whether verification should be done by national or international entities, and how reference (crediting) levels should be set (Verchot and Petkova 2009). Two options have been proposed regarding which carbon pools should be included, one is to monitor all five approved pools and the other is to monitor only selected pools. The latter option is likely to be more cost effective and more consistent with current CDM rules for A/R activities and with national greenhouse gases accounting for land use, land use change and forestry (LULUCF) in Annex I countries.

As regards whether verification should be done by national or international entities, Parties explored the option of verification at the national level (in accordance with internationally agreed guidelines and procedures) for nationally funded actions, and verification at the international level for actions implemented with external support (Verchot and Petkova 2009).

Although there is agreement that reference levels should be based on historical emissions and take national circumstances into account, there is no agreement on what constitutes a reference level, or the criteria or procedures for setting reference levels. Conceptually, reference levels can refer to either a business-as-usual (BAU) baseline or a crediting baseline (Angelsen 2008a). Different ways of setting the reference levels have profound implications for allocating global REDD+ resources and also for incentives (Meridian Institute 2009a).

Four options have been put forward for setting reference levels. These differ according to whether country-specific baselines are determined by a negotiated formula or whether the baseline is proposed by the country and approved by the COP, an independent panel of experts, or a combination of the two. Involving experts is considered to be critical in order to minimise the risk of inflated reference levels, which would limit or even eliminate global additionality (Meridian Institute 2009a).

National REDD+ architecture

In theory, the overall REDD+ architecture can be compared to a multilevel payment for environmental services (PES) scheme (Angelsen and Wertz-Kanounnikoff 2008). There are at least two levels. At the international level, buyers (e.g., voluntary or compliance markets) will pay sellers (governments or subnational entities) in tropical forest countries for an environmental service or measures likely to deliver this service (e.g., tenure reform, law enforcement). At the national level, governments or other intermediaries (buyers) will pay subnational governments or local landowners (sellers) to reduce emissions or to take other measures to reduce emissions (e.g., strengthen law enforcement

or remove subsidies). In practice, the problems of national implementation of PES call for a much broader policy approach, as argued in several of the book chapters.

The key elements of a national REDD+ structure are shown in Figure 2.2. At the international level, funds may originate from carbon markets and international funds (of voluntary contributions or linked to carbon markets) as shown by the red arrows. At the national level, money can be channelled either as support to governments or related institutions, or to separate REDD+ funds. Direct support for projects is also feasible, as discussed earlier.

Figure 2.2 also shows the 3Is – *incentives* (red arrows), *information* (green arrows) and *institutions* (white boxes). The 3Is need to be flexible, as they will change over time as countries progress through the three phases of REDD+ implementation. For example, while subnational activities are likely to be particularly important during the early phases of REDD+ implementation (phase 1), this will change to a national approach in the long run (phase 3).

What should REDD+ funds be spent on?

Before discussing national institutions for implementing REDD+, we outline the main ways REDD+ funds may be spent:

1. **On capacity building and readiness.** This refers to money spent to develop a national REDD+ strategy, on consultations and to develop MRV capabilities. It also includes money spent to set up demonstration activities, which both build capacity and help learning, and also reduce and remove emissions.
2. **On broad policies to address the drivers of forest carbon change.** This refers to money spent on policies and measures (PAMs) to address the underlying drivers of forest carbon change, including regulating demand for agricultural and forest products, tenure reforms, land use planning, better governance, and command and control measures. Parts 3 and 4 of this book discuss these measures at some length.
3. **On performance.** This refers to money spent on rewards for performance or results, and requires some form of performance measurement, which could be indicators, proxies or quantified forest carbon change depending on the level of MRV capabilities. Payments for forest carbon services are the most direct form of performance payments, but other more intermediate forms between this and PAMs are feasible.

All three types of spending require MRV in order to ensure payment according to performance, the key principle behind REDD+. However, different institutional and MRV arrangements will be needed for the different types of activities and payments.

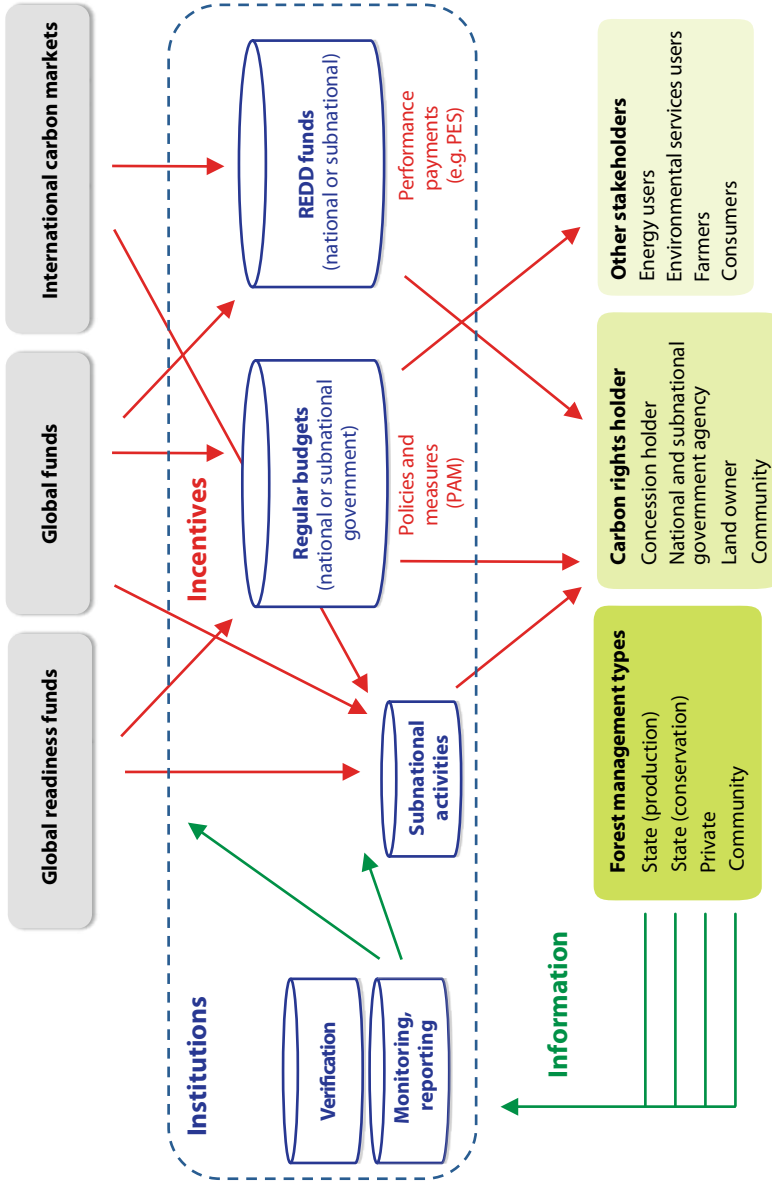


Figure 2.2. Conceptual model of national REDD+ architecture

Money could be spent in all three ways simultaneously. For example, PAMs will be needed in all three phases of REDD+ implementation. A country could produce REDD+ credits for sale in international carbon markets (phase 3) by putting in place a set of PAMs to reduce the pressure on forests and, at the same time, put in place performance-based measures.

Institutional framework for national REDD+

Figure 2.2 shows the three main elements of national REDD+ architecture: incentives, information and institutions (the 3Is). REDD+ *incentives* flow from international sources to a national fund or to regular budgets (e.g., ministries of finance) and then to the subnational level through the government budget or direct payments to carbon rights holders (Chapter 5). Carbon rights holders include private landholders, communities, concession holders and government agencies.

Figure 2.2 also shows how international performance payments can flow directly to local carbon rights holders, without passing through national REDD+ funds or government budgets. This would occur in the subnational and nested approaches. Although the nested approach is limited to the early phases of REDD+ implementation (since a national approach is the long-term goal), it could persist for much longer if countries choose the project-based crediting route.

The second element is REDD+ *information*, i.e., data on forest emissions reduced or carbon stocks enhanced from each forest, by type and location. This information will be gathered and processed through a national, regional or international MRV system and submitted to a national REDD+ payment authority (fund or treasury), a UNFCCC institution, and to international buyers of REDD+ credits. Payments to local carbon rights holders will be determined by this information.

The third element is REDD+ *institutions*. These will manage the flow of information on changes in forest carbon stocks between levels, and the flow of incentives to carbon rights holders. These institutions could build on existing institutions, and would include a REDD+ payment authority and an MRV system. The REDD+ payment authority would channel funds from the international to the subnational level according to the volume, location and type of emission reductions (Chapter 5). Most probably, sub-institutions will be needed to manage technical, financial, administrative and supervisory aspects. The MRV system will gather and verify information on actual reductions in forest emissions and report to national and international counterparts (Chapter 7). In principle, the MRV system could cover any level, from national to international. Since MRV capabilities are costly to

develop and maintain, regional MRV systems, such as envisaged by Central African Forest Commission (COMIFAC) countries, could be cost effective. Note that some institutions and their functions will most likely evolve over time to respond to the changing demands in the different phases of the REDD+ implementation process, including the transition from subnational or nested approach to a fully national approach where project-level activities need to be integrated into the national system (also called the ‘docking issue’, see FCPF 2009).

Concluding remarks

The international REDD+ architecture will influence the design and implementation of national REDD+ schemes. But the international architecture is still evolving. Meanwhile, a phased approach, at both international and national levels, is important to ensure wide participation and to reward countries as they develop REDD+ schemes. The institutional arrangements countries put in place need to be flexible to accommodate changes as they move through the different phases of implementation.

Realising REDD+ within countries has three main features: incentives, information and institutions (3Is). First, countries need to put in place incentives to reduce forest emissions and enhance removal of carbon; this could be done directly by making payments for performance, indirectly by changing policies, or both. Second, countries need to set up reliable systems to collect information on changes in forest carbon stocks to secure cash flows from international sources. Finally, countries need to develop institutions, either by setting up new ones or by reforming existing institutions, to manage the upward and downward flow of information and rewards.

One topic that is cropping up more and more in international climate negotiations is the need for REDD+ to be part of ‘nationally appropriate mitigation actions (NAMAs)’ that encourage low carbon development. Clearly, climate mitigation in developing countries needs to align with developments in other sectors and at other levels (national and international), particularly as regards long-term, full carbon accounting. Making REDD+ part of NAMAs sets the scene for harmonising national mitigation actions across sectors and redirecting development toward low carbon economies.

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