



The evolving landscape of REDD+ projects

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- The landscape of REDD+ projects varies significantly across countries, reflecting differences in land tenure systems, drivers of deforestation, recent experience with conservation programmes and governance capacity.
- Indonesia appears to have the most REDD+ projects in the pipeline, with a substantial portion seeking to establish additionality, permanence and a legal claim to carbon by obtaining concessions.
- In Brazil, two common strategies are to initially seek carbon credits from afforestation or reforestation and to develop local-level payments for environmental services (PES) schemes.
- Third-party certification standards and international environmental organisations are major influences on project development.

Introduction

The Bali Road Map has triggered massive expansion in activity related to reducing emissions from deforestation and forest degradation (REDD+) in developing countries. This includes hundreds of planned ‘first generation

REDD+ projects' that are seeking to reduce net emissions from defined forest areas. These projects provide a testbed for answering some of the questions raised in previous chapters about how to structure and implement national REDD+ policies.

This chapter first defines these projects, which come in many different shades, and describes the lessons they offer. There are several ongoing efforts to inventory these projects. Based on current knowledge, we discuss key dimensions of projects in Brazil, the Democratic Republic of Congo (DRC) and Indonesia, noting national differences in project development. We close with some observations on emerging patterns in the global landscape of REDD+ projects and implications for how to realise REDD+.

Definition

The UNFCCC, the World Bank, the United Nations, bilateral donors, host nations and voluntary carbon market actors (registries, certifiers and aggregators) use a variety of terms and categories for these activities. In this chapter, we consider all projects that seek to implement, evaluate and generate lessons about strategies to reduce carbon emissions and increase removals in specific forest sites in developing countries, referred to as non-Annex I countries. To avoid confusion with existing terms (e.g., pilots and demonstration activities), we label these 'first generation REDD+ projects' and define the parts of that label.

'REDD+' implies actions to 1) reduce emissions by avoiding deforestation and forest degradation, and 2) increase removals, which means enhance carbon stocks through forest restoration, rehabilitation and conservation. In this chapter, we focus on projects that generate their net reductions in carbon emissions by avoiding deforestation/degradation or by enhancing carbon stocks in existing forest (cf. Sasaki and Putz 2009). We de-emphasise afforestation and reforestation (A/R) projects that are currently eligible for the Clean Development Mechanism (CDM), because it is uncertain whether they will be included in the REDD+ mechanism (Chapter 2), and because much is already known about the CDM and parallel activities in the voluntary market (Jindal *et al.* 2008; Minang *et al.* 2007; Coomes *et al.* 2008; Henman *et al.* 2008; Parker 2008; Wittman and Caron 2009; Wunder and Alban 2008).

The term 'project' refers to activities that:

1. intend to quantify and report changes in forest carbon stocks, following IPCC and/or other broadly accepted guidelines (Chapter 7), and possibly transact forest carbon credits; and

2. operate in a geographically defined site or sites, with predetermined boundaries as suggested by UNFCCC guidelines (Decision 2/CP.13 of SBSTA 30), including activities that aim to incorporate carbon into land use decisions and planning across heterogeneous landscapes at a subnational scale.

We define ‘first generation’ as projects that have been launched since the UNFCCC COP-13 in Bali and that can share lessons learned and experiences gained up until 2012. We distinguish between these projects and ‘pre-REDD+ projects’. The latter include avoided deforestation projects registered as ‘activities implemented jointly’ (AIJ) under the UNFCCC or developed under the BioCarbon Fund.¹

Shades of REDD+

While our definition seems straightforward, different groups define REDD+ projects in widely different ways. In the UNFCCC realm, REDD+ projects are linked to national climate mitigation programmes, whereas in the world of carbon markets, REDD+ projects are characterised by the way they generate carbon credits for the voluntary market (Chapter 3). Others with experience in landscape and forest management define REDD+ as a new source of funding for conservation (Chapter 18). Box 21.1 examines the variety of funding sources for REDD+. In this section, we examine how REDD+ projects look (or is expected to look) through these different lenses, assuming that all shades of REDD+ can offer valuable lessons.

For participants in the official UNFCCC process (i.e., governments from implementing and donor countries), REDD+ projects mean subnational demonstration activities that are ‘undertaken with approval of host’ and constitute ‘a step toward the development of national approaches’ (UNFCCC/ SBSTA/2/CP.13). Currently, most official activities focus on building capacity (e.g., monitoring, reporting and verification (MRV) systems, financial institutions) to participate in REDD+ and fostering dialogue about how to achieve cost-effective and equitable reductions in forest emissions. For example, this is central to all three programmes listed on the UNFCCC REDD Platform: the Forest Carbon Partnership Facility administered by the World Bank; the UN-REDD Programme of the FAO, UNDP and UNEP; and the Kalimantan Forests and Climate Partnership between Indonesia and

¹ Launched by the UNFCCC COP-1, AIJ were undertaken on a voluntary basis with the objectives of building experience and ‘learning by doing’ about climate change mitigation benefits that would otherwise not occur. See: http://unfccc.int/kyoto_mechanisms/aij/activities_implemented_jointly/items/2094.php. Pre-REDD+ projects were also supported by the second window of the BioCarbon Fund, which the World Bank started in 2004 with the objectives of strengthening the role of forests in climate change mitigation and creating opportunities for the participation of sub-Saharan Africa. See <http://wbcarbonfinance.org/Router.cfm?Page=BioCF&ft=Projects>

Box 21.1. REDD+ financing trends

Michael Coren

To achieve REDD+, the undervaluation of forests must be addressed; this requires significant financial flows to forest owners and managers at different scales. 'REDD+ readiness finance' comes primarily from bilateral and multilateral donors, with complementary funding from philanthropic sources. This includes support for the development of MRV systems and the formulation of REDD+ strategies, policies and implementation frameworks. The Informal Working Group on Interim Finance for REDD (IWG-IFR 2009) divides readiness finance into 1) initial readiness including the design of REDD+ strategies and initial MRV capacities; 2) participation enablers including the building of MRV systems and the adoption of REDD+ policies; and 3) policy enablers including the governance and policy reforms to support REDD+. IWG-IFR estimates the costs for initial readiness and participation enablers to be €400–500 million, and for policy reforms to be €1–2 billion from 2010–2015.

Bilateral and multilateral donors and the private sector are financing 'REDD+ demonstration activities', such as the first generation REDD+ projects. These include a range of interventions to reduce deforestation at the national and subnational levels by supporting governance reforms, agriculture policies and forest management. The activities, primarily in Asia and Latin America, rely on a diverse set of financial arrangements, ranging from public and philanthropic funds to high-risk private capital. Many are true 'demonstration' or pre-commercial efforts with emissions reduction potential and high co-benefits, but there are also speculative commercial enterprises designed for voluntary and compliance markets.

Pre-compliance REDD+ projects attract private capital thanks both to emerging US climate legislation and to the prospect of an international framework allowing subnational crediting. Resulting emission reductions are currently being verified under voluntary carbon market standards, but could potentially be converted into compliance credits as legal frameworks are established. Public donors include bilateral aid agencies (e.g., AusAid, DANIDA, DFID, GTZ, JICA, KfW, Norad, AFD, USAID) and foundations (e.g., Blue Moon Foundation, Clinton Climate Initiative, MacArthur Foundation, Moore Foundation, Prince's Rainforest Project). They support REDD+ demonstration activities in part to test national-level implementation frameworks, in particular stakeholder involvement and benefit-sharing provisions.

Financing for scaling up REDD+ projects to the landscape scale has not been consolidated. REDD+ demands relatively large investments early in the project cycle (assessment, design, measuring and monitoring, validation and verification). So far, only a handful of private financial institutions and project developers have taken such risks on a significant scale, usually with expectations of generating future compliance credits, with voluntary market credits and alternative revenue as financial security. Ultimately returns on these projects must be high enough to attract the billions of dollars of private investment needed to expand the REDD+ sector globally (cf. Brunswick Research 2009).

Despite the great potential for private financing – especially to generate the large sums of high-risk-high-return capital required to scale up REDD+ – most funding still originates from philanthropic and public sector sources. Until legal frameworks are established through either the UNFCCC or national legislative processes, REDD+ activities will continue to rely on national-level aid from World Bank funds, multilateral institutions, charitable foundations and small-scale, high-risk private sector financing.

Australia (http://unfccc.int/methods_science/redd/items/4531.php). Perhaps because the bilateral and multilateral donors involved in these activities have experience and interest in development aid, they are the primary actors in many African countries where there are significant governance challenges (Wertz-Kanounnikoff and Kongphan-apidak 2009). Although some of these official demonstration activities intend to reduce deforestation and degradation directly, this is generally planned as a later stage. Thus, they could be categorised as ‘readiness for REDD+’ as opposed to ‘demonstrations of REDD+’ (cf. Wertz-Kanounnikoff and Kongphan-apidak 2009).

For actors engaged in carbon markets, activities to reduce emissions and increase removals fit the definition of REDD+ if they deliver real, additional, verifiable carbon credits. For example, Ecosystem Marketplace’s Forest Carbon Portal tracks only projects that are transacting credits or verifying to a third-party standard. Many commercial actors are seeking to develop and market these carbon credits (Hamilton *et al.* 2009). In general, these actors seek to maximise efficiency, although co-benefits are often important marketing tools for them (EcoSecurities 2009; Brunswick Research 2009). Thus, these projects are important real-world tests of various REDD+ strategies and institutional arrangements. However, there are also limitations on learning from these projects, because their results may not scale up (precisely because they have picked the ‘low-hanging fruit,’ i.e., the lowest cost and least controversial projects) and because they may restrict access to information about the site

selection process and the early phases of project development (due to concerns over moral hazard, competitors and creating unrealistic expectations).

For many involved in forest conservation, REDD+ is not a new concept, but rather a new funding source to finance their pre-existing goals. By integrating carbon objectives into their activities in a manner that meets certain definitions and criteria for additionality, they expect to access vastly greater financing opportunities (Ingram *et al.* 2008). Whether a retooling of an existing conservation project or a newly developed project seeking carbon money for conservation finance, these REDD+ projects are likely to focus more on co-benefits. Many of these projects face significant challenges in demonstrating both financial and environmental additionality: They would have been implemented without carbon funding or they are paying for forests that are not under threat. Yet, they offer important lessons about tradeoffs (or complementarities) across the 3E+ outcomes (Chapter 1), especially in comparison to projects focused more narrowly on climate change mitigation.

A fourth perspective is that REDD+ is often assumed to be equivalent to PES (payments for environmental services, see Chapter 2). The most prominent proposals for how to structure REDD+ internationally are essentially PES systems for countries, similar to 'cash on delivery' aid (CGD 2009). The key feature of these systems is that payments, usually monetary, are contingent and guaranteed upon performance, usually judged by a single outcome measure (Chapter 17). It is sometimes assumed that countries will design their national REDD+ systems to look like PES, passing down conditional payments from the international level to the local level. However, REDD+ projects vary in their emphasis on small-scale local actors and many non-PES policy options are being considered for implementing REDD+ at the national and local levels.

Cataloguing first generation REDD+ projects

From some perspectives, REDD+ projects are emerging very slowly (Niles *et al.* 2009), accounting for only 1% of carbon offset credits transacted in the voluntary market in 2008 (Hamilton *et al.* 2009). On the other hand, many NGOs have criticised the headlong rush into REDD+ and called for more thorough consultation with local people. These divergent perspectives may reflect the fact that many actors are exploring possibilities and establishing options for REDD+ projects, without seeking to bring them to market or register them until policy uncertainties are resolved.

Efforts to catalogue all forest carbon and REDD+ activities worldwide have identified significantly more projects in the pipeline than appear in registries and standards' databases (Parker 2008; Cerbu *et al.* 2009; Johns and Johnson 2009; Wertz-Kanounnikoff and Kongphan-apirak 2009). Both Cerbu *et al.*

(2009) and Wertz-Kanounnikoff and Kongphan-apirak (2009) found that REDD+ activities are unevenly distributed across the world's forests (see Box 21.2).

As part of CIFOR's global comparative study of REDD+, we are in the process of cataloguing forest carbon projects and creating a typology of first generation REDD+ projects. By drawing on the above sources, as well as key informants and materials available on the Internet, we have identified about 60 potential first generation REDD+ projects in Brazil, the DRC and Indonesia. These are the top three countries in terms of existing forest carbon stock and in the top five in terms of annual carbon emissions from deforestation and degradation (FAO 2006). In each of these countries, the landscape of first generation REDD+ projects looks very different.

Evolution of REDD+ in Brazil, the DRC and Indonesia

A brief history

Brazil has the longest history of REDD+ projects, with one of the first major avoided deforestation projects launched by The Nature Conservancy (TNC) and its national partner SPVS in the Atlantic Coastal Forest of Paraná in 2000. This was followed by numerous A/R projects. Brazil also has substantial experience with carbon markets, with 200 registered CDM projects (including one A/R) and 30 projects certified by the Voluntary Carbon Standard (VCS), several involving wood energy.

Indonesia led the current wave of first generation REDD+ projects with the Ulu Masen project, which was the first to receive certification by CCBA in 2008. Indonesia has moderate experience with carbon markets with 47 CDM projects and one VCS-certified project.

By contrast, the DRC has no CDM projects, no prior REDD+ projects and just one A/R project and one fuelwood project. That said, there is now significant interest in – and funding for – developing REDD+ projects in the DRC, including support from GEF, the Forest Carbon Partnership Facility, bilateral aid organisations, and international environmental NGOs with support from corporate social responsibility programmes.

Current status

In our inventory of first generation REDD+ projects, we have identified 35 in Indonesia (one already operating), 20 in Brazil (two already operating), and four in the DRC (none operating yet). This is consistent with other cataloguing efforts, which have also found a concentration of projects in Indonesia.² In Brazil, nearly 40 proposals have been submitted to the Amazon

² The Forest Carbon Portal lists only one forest carbon project in each country, but that reflects its requirement that a project already be certified or selling credits (including from A/R).

Box 21.2. Criteria for location of first generation REDD+ projects

Gillian Cerbu

First generation REDD+ projects are not uniformly spread across the tropical forest landscape. To understand the reasons for this uneven distribution, the ASB Partnership for Tropical Forest Margins (hosted by the World Agroforestry Centre ICRAF) conducted a global survey of REDD+ activities and examined motivations for site selection (Cerbu *et al.* 2009).

Motives for implementing REDD+ projects in particular locations can be characterised as official and unofficial criteria (Cerbu *et al.* 2009). Official selection criteria are publicly stated in project design documents (PDDs), investor websites and other official publications. We analysed these documents for all 179 REDD+ activities in our global survey. Unofficial location criteria were gleaned from 19 interviews and from media sources discussing the locations of REDD+ activities.

We counted 86 official selection criteria, which we categorised into 10 groups. The most frequently cited categories are shown in Figure 21.1. Other categories cited five or fewer times are business value, climate benefits, cultural value, medical benefits and water conservation value. These official selection criteria do not fully explain the current spread of REDD+ projects, with activities primarily concentrated in certain countries. We turned to unofficial reasons to understand this distribution. From the 65 unofficial reasons for site selection stated by respondents or in the media, we formed 13 categories. The most frequently cited categories are shown in Figure 21.2. Other categories are creating a net benefit, cultural value, financial viability, high conservation/biodiversity value, high level of deforestation, currently low level of deforestation but threat of future deforestation, technical capacity, technical interest and water resources protection.

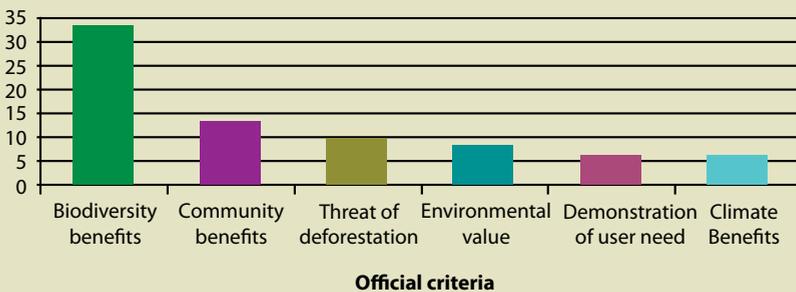


Figure 21.1. Official criteria for REDD+ activity location selection

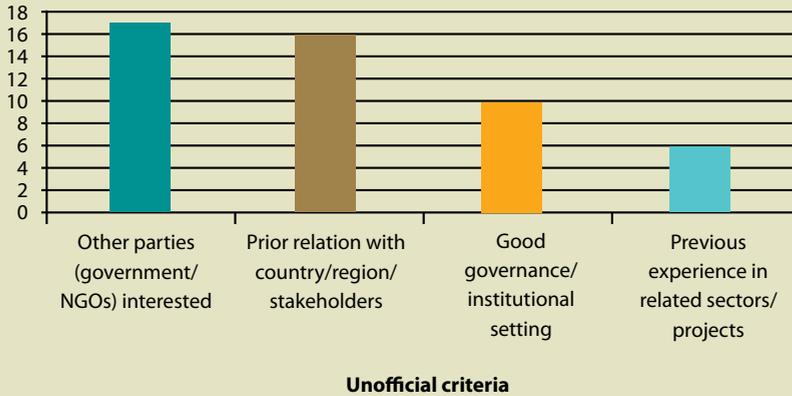


Figure 21.2. Unofficial criteria for REDD+ activity location selection

In practice, existing sustainable forest management and integrated conservation and development projects (ICDPs) underlie many of the criteria, because they are why other parties are interested, prior relationships have been established and prior experience gained. In fact, many REDD+ activities are really extensions of existing ICDPs, whose locations were determined largely by biodiversity, conservation and development goals, with carbon benefits at best a secondary consideration.

Another common theme in the unofficial reasons for site selection is the potential for future success, in terms of good governance as well as financial feasibility, technical capacity and the likelihood of creating a net benefit. This may be driven partly by project funders. For example, the World Bank Carbon Finance Unit argues that local environments must support project identification, preparation and consideration for REDD+ projects to be successful (World Bank 2008a).

To mitigate climate change, REDD+ activities should be located in areas with significant threats to large forest carbon stocks. However, proponents are more likely to look for low-risk investments, facilitated by existing relationships with national, regional or local stakeholders, and by good governance and favourable institutional settings. This is consistent with the uneven distribution of projects across the three countries discussed in detail in this chapter: Brazil and Indonesia are ranked much higher than the DRC in terms of both ease of doing business and governance (World Bank 2009a; Kaufman *et al.* 2008). More generally, the lack of first generation REDD+ projects in the humid forests of Africa indicates that high mitigation potential has not overcome weak governance as a site selection criterion.

Fund (see Box 5.2), and some of those are likely to become new first generation REDD+ projects.

REDD+ projects are distributed unevenly at the subnational level also. In Brazil, the majority are located in the Amazon, with a third of those in Mato Grosso, which is the state with the second highest deforestation rate in Brazil. The remaining REDD+ projects (and most of the A/R projects) are in the Atlantic Coastal Forest. The size of projects varies enormously, with projects as small as 20 hectares in the Atlantic Coastal Forest and as large as 8.4 million hectares (operating at the landscape scale) in the Amazon.

In Indonesia, most REDD+ projects are on the islands of Borneo (15 projects) and Sumatra (10), with only a few each on Java (2), Sulawesi (3) and Papua (5). This is consistent with expectations that islands with both large forest stock and rapid deforestation (Sumatra and Borneo) would have more REDD+ activities than islands with less forest carbon under threat. Project sizes vary in the range of 10 000 hectares to 4.2 million hectares with larger projects operating at a landscape scale.

One advanced project in the DRC focuses on two community managed reserves in the eastern part of the country; several other REDD+ projects and multiple readiness activities are being developed.

One common pattern across all three countries is that many proponents are developing REDD+ projects where they previously had conservation projects.

Most projects in these three countries plan to pursue certification or at least claim that they will meet the standards of CCBA and a carbon registry

Box 21.3. How standards are shaping the REDD+ landscape: The case of the Climate, Community and Biodiversity Standards

Joanna Durbin

Carbon credit buyers have been wary of forest carbon, in part because of the complexity of accurately measuring emissions reductions, concerns about the permanence of those reductions and perceived greater social and environmental risks relative to other project types. These risks are particularly acute in tropical regions where there is also the greatest potential for forest carbon projects. Depending on how the project is implemented, land use change in these regions can either impoverish and disenfranchise the poor or can bring new sustainable livelihoods and biodiversity protection.

Standards have been created to address these issues and have been influential in building support for forest carbon by providing a set of broadly accepted criteria and a mechanism for independent third-party verification. According to a recent survey of carbon offset buyers (Ecosecurities 2009), the most recognised standards for forest carbon projects in the voluntary carbon market are the Climate, Community and Biodiversity Standards (CCBS), the UNFCCC Clean Development Mechanism (CDM), and the Voluntary Carbon Standard (VCS).

The VCS has helped build confidence in estimates of climate benefits and remove liability for potential reversals in those benefits, thereby creating 'permanent' forest carbon credits. This box focuses on the CCBS, which, together with the VCS, is defining the 'quality' dimensions of forest carbon offsets, thereby influencing the way projects are developed and what buyers seek in projects.

The CCBS requires project developers to demonstrate that they are generating co-benefits for local communities and biodiversity and that they have adopted an inclusive approach respecting people's rights, interests and traditions. The majority of forest carbon projects in development are planning to use the CCBS. In November 2009, 14 projects completed a full validation audit, 25 were undergoing validation and at least 50 more were planning to use the standards.

While originally designed to identify the highest quality projects, the CCBS has almost become a requirement for market access. More than 75% of carbon offset buyers who responded to the Ecosecurities (2009) survey said they would pay a premium for carbon credits certified under the CCBS in addition to a carbon accounting standard such as the VCS or CDM. Buyers and investors have two motivations for demanding CCBS certification. First, they understand that forestry projects are unlikely to generate sustained flows of permanent emissions reductions without local support. Second, they may want to support additional social and biodiversity benefits with their carbon investment, especially if they entered the market to fulfil corporate social responsibility.

By creating a mechanism to demonstrate strong social and environmental credentials of forest carbon projects, the CCBS has raised awareness of the importance of social and biodiversity impacts, has defined how they should be addressed and has stimulated demand for multiple benefit projects. The extent to which this influence will continue when forest carbon is integrated into compliance markets is uncertain. One effort to ensure that effective social and environmental safeguards are adopted in future compliance markets is the 'REDD+ Social and Environmental Standards' under development by CCBA and CARE. These standards will provide a mechanism for government-led REDD+ programmes to demonstrate social and environmental co-benefits. The goal is to develop support for multiple benefit government REDD+ programmes in the same way that CCBS has generated demand for REDD+ projects with co-benefits.

(e.g., through certification under the VCS or the Brazilian Social Carbon standard). This reflects the growing importance of third-party certification in the voluntary carbon market (see Box 21.3). This is likely to influence the REDD+ landscape in these countries by determining what is required to demonstrate permanent legal ownership and additionality of carbon, as well as by showing how to incorporate environmental services and livelihoods (Madeira 2009).

Proponents

Many actors are involved in developing REDD+ projects, including bilateral aid organisations, host-country government agencies, international NGOs, local NGOs, investment banks, private sector project developers and timber and plantation companies.³ In many cases, organisations collaborate to develop projects. For example, the FFI-Macquarie taskforce is a partnership between an international environmental NGO and a financial institution. While all REDD+ projects must quantify their reductions in net emissions, the different types of actors bring different priorities and emphasise different co-benefits. For example, bilateral aid organisations often place a strong emphasis on supporting local livelihoods; private investors prioritise efficient emissions reductions compatible with corporate social responsibility objectives.

Several international environmental NGOs are global players in REDD+. Conservation International (Harvey *et al.* [in press]), The Nature Conservancy, the World Wide Fund for Nature and the Wildlife Conservation Society are all developing REDD+ projects in at least two of the three countries discussed in this section. Their influence means that projects are being developed with a strong concern for environmental co-benefits, specifically biodiversity. For example, in the DRC, all the projects we have identified are being developed by international environmental organisations.

Brazilian organisations (NGOs, private sector and government) are the key force behind at least two-thirds of the REDD+ projects catalogued in the country. Most of these projects involve an international partner, at least to facilitate access to international funding. About one-fifth of projects have strong private sector leadership.

In Indonesia, international environmental NGOs and their national affiliates are developing more than half of the REDD+ projects, working with local NGOs, government, timber and plantation companies and private project developers. A quarter of REDD+ projects are being developed by an actor from the private sector, sometimes in partnership with NGOs or government.

³ There are several online directories of carbon offset providers and developers. See <http://www.carboncatalog.org/providers/>; <http://www.endscarbonoffsets.com/directory/>; www.carbonoffsetguide.com.au

Host country governments play at least a small role in most – if not all – REDD+ projects in that third-party certification requires a letter of endorsement or a memorandum of understanding from a relevant government authority. The government of Indonesia is developing a regulatory framework for projects, including rules for revenue sharing. Subnational governments in both Brazil and Indonesia are also involved in funding, marketing, developing or implementing projects. There is significant government leadership of about a quarter of projects in both countries, including efforts to support protected areas and to incorporate forest carbon into planning at the landscape scale.

Strategies

All REDD+ projects share the common objective of reducing emissions or enhancing forest carbon stocks. However, the operationalisation of REDD+ differs depending on both the specific deforestation or degradation threat (or restoration opportunity) and the existing institutional, socio-economic and biophysical context. Projects might require local actors to reduce fuelwood collection; encourage regeneration by planting or tending trees; restore hydrological systems in peat domes; prevent wildfire by installing fire breaks and burning only under optimal conditions; extend the length of cultivation and fallows in swidden systems; adopt reduced impact logging and active silvicultural management; and stop or slow conversion of forest to other land uses.

One important distinction is whether a project seeks to change the behaviour of agents who are already operating in the project area, or seeks to prevent new agents of deforestation and degradation from entering the project area. The latter strategy, called ‘avoided planned deforestation and degradation’ under the VCS, is common in Indonesia. Many project proponents in Indonesia are negotiating to purchase a concession and manage the forest for carbon, thus pre-empting timber extraction or conversion to plantations (Madeira 2009). The concession model is not as prevalent in Brazil, thus the concept of buying out concessions is not part of the REDD+ project landscape.

Although major problems with land tenure remain in the Brazilian Amazon, it is possible to obtain relatively secure private title to some forest lands. Thus, in both the Amazon and the Atlantic Coastal Forest, project proponents (or affiliated organisations) are purchasing land for some REDD+ projects – including both degraded forest to be restored and forest facing future threats. Nearly half of the projects in Brazil are considering local-level PES schemes, with conditional payments to individual agents who forgo deforestation or contribute to forest restoration. By contrast, local-level PES schemes are not prominent in Indonesian REDD+ projects. This is consistent with the finding of Bond *et al.* (2009) that PES is most advanced in Latin America.

Summary and relationship with national architecture

Despite the great variety in the first generation REDD+ projects under development, some trends are emerging. Brazil has more projects that are being developed by domestic organisations, that involve the purchase of land and that are considering local-level PES schemes as a component of their implementation strategy. In Indonesia, international NGOs play a more prominent role in project development, and projects frequently involve establishing concessions. The DRC has readiness activities but relatively few REDD+ projects in advanced stages of development. This variation across countries reflects differences in land tenure systems, recent experience with conservation, deforestation drivers and governance capacity. The project landscape across these three countries confirms the thesis of this book that we can learn much from previous conservation initiatives: the first generation of REDD+ projects are building on and borrowing from the accumulated experience of a wide range of previous conservation interventions.

Standards, funding and development of projects are being driven largely by actors in developed countries, where there is demand for both offsets and environmental co-benefits. Brazil could be considered the exception that makes the rule, in that many Brazilian project developers, investors and environmental NGOs involved in REDD+ are located south of the Amazon, where there is also some demand for voluntary carbon credits. Interest in environmental co-benefits is also reflected in the engagement of major environmental organisations, who are key players in the development of projects as on-the-ground tests of REDD+, while the multilateral initiatives of the UN and the World Bank focus on building capacity at the national and regional levels.

There are different perspectives on whether REDD+ projects are (or should be) transient phenomena that will be phased out when or if the international REDD system moves toward a national approach (see Chapter 2). Clearly, the volumes of emissions reductions possible under national programmes have the potential to greatly surpass what a single project could achieve. But others contend that any 'effective REDD+ system must ensure that landholders and forest dwellers receive real incentives to reduce deforestation and conserve standing forest, and projects are fundamental to achieving this' (Schwartzman 2009). As national programmes evolve, governments will have to consider how to incorporate projects, what degree of fungibility to allow between voluntary and compliance markets, and how to ensure consistency in MRV (Chapter 7).

In some senses, each first generation REDD+ project is like a mini test case of a national REDD+ system: the proponent must decide on the most effective intervention, develop an efficient implementation strategy, establish monitoring and verification systems that meet market or donor requirements and build a financial structure to receive, allocate and distribute carbon financing. They face governance and corruption issues (both within the project and in relation to government authorities); they are often concerned with co-benefits (because of organisational mandate, belief that co-benefits are key to reducing carbon emissions, requirement for certification or for marketing purposes); and they must decide how to share benefits from carbon revenues.

One crucial difference is, however, that projects cannot tackle corruption at the national level (Chapter 13), reform land tenure laws (Chapters 11 and 12) or reverse perverse subsidies for agriculture (Chapters 10 and 15). Rather, they must operate within the existing institutional context. They can thus provide important lessons about elements of the institutional and legal context that are most critical to reform in order to facilitate REDD+ at the local level, and about how to implement REDD+ under less than optimal conditions. The next chapter addresses the issue of how to learn these lessons from projects.

