

Chapter 3. Benefit Sharing

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3.1 Introduction

One of the most challenging hurdles for successfully connecting national governance systems with the REDD component of a future UNFCCC agreement (hereafter “REDD regime”) will be the receipt of financial inflows from international sources and distribution to relevant national actors. In an environmental law context, the term “benefit-sharing” originates from a program of work under the Convention on Biodiversity (CBD) aiming to distribute financial results from the development of genetic resources to local inhabitants from whose lands such resources were taken. Similarly, government, private landowner and forest community actors most relevant to national forest governance, as well as outside investors and other supporting actors, will require equitable benefit-sharing arrangements to compensate them for their participation in REDD regimes. Given clear and effective legal frameworks, successful benefit-sharing can help guarantee public support, promote environmental integrity and thus inspire investor confidence.

Analysis of REDD preparatory efforts to date suggests countries have paid insufficient attention to the apportionment of revenues amongst forest governance actors, and most benefit-sharing arrangements lack clarity as a result.¹ Additionally, financial experts warn of the potential impacts of large carbon finance revenue streams in developing countries with feeble rule of law and inadequate public financial management capacity, or where human rights norms are disregarded.² In connection with ownership and participation issues addressed in previous chapters, a central concern is that local and indigenous communities may be overlooked in the apportionment process, and any meagre benefits such arrangements do promise them are lost to corrupt intermediaries. In turn, such a result could undermine local populations’ participation and support of forest conservation projects, and potentially the permanence of any carbon sequestered over the long term.

This chapter will focus on clarifying the legal aspects of benefit-sharing frameworks, although little national or sub-national law on the topic has been developed to date. The chapter will first provide a background on the broader notion of Payments for Ecosystem Services (PES) initiatives, of which REDD is a multi-level variety. Then the chapter will identify approaches for REDD accounting frameworks and the significance of such decisions on benefit sharing. The third and fourth sections of the chapter will focus on payment inflows from international sources and payment out-flows to local actors.

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¹ See generally, Davis, C. *et al.* (2009). “A Review of 25 Readiness Plan Idea Notes from the World Bank Forest Carbon Partnership Facility”. WRI Working Paper. Washington DC, USA: World Resources Institute.

² Eliasch, J. (2008). *Climate Change: Financing Global Forests. The Eliasch Review*, p. 205. London, UK: Office of Climate Change.

Box 3.1 “Benefit-Sharing” Defined

Although REDD incentives to national actors are often considered in terms of financial compensation, REDD incentives may be distributed to national actors in a variety of forms. Current UNFCCC negotiating text on REDD envisages preliminary phases of REDD compensation from developed countries as including legal and institutional capacity-building assistance to developing countries hosting REDD programs (as discussed in Sections 3.3 and 3.4).³ PES projects have also shown a wide range of incentives beyond financial compensation (as discussed in Section 3.5.2). Although this publication takes no position on whether financial or non-financial forms are better for compensating developing countries hosting REDD programs, the term ‘benefit-sharing’ rather than ‘revenue-sharing’ is used hereafter to represent the wider potential stream of incentives currently considered in UNFCCC negotiations as well as potentially available at the national level to project actors.

3.2 Benefit-sharing under PES

3.2.1 Payments for ecosystem services

A global REDD regime will largely consist of upscaling and formalizing via international and national legal processes the multitude of PES incentive-based private projects and government programmes that have existed both on a voluntary and a regulated basis around the world for several decades already. PES projects address the deficiency in “command-and-control” environmental and natural resource policies, which are less effective in ensuring the internalization of environmental externalities (i.e., the hidden costs to the public from environment-related decision making), such as those occurring when land owners convert forests to other uses and release carbon emissions. A general definition of PES helps highlight the key factors distinguishing such approaches from other incentive-based policies, as shown in Box 3.2.

Box 3.2 Definition of payments for ecosystem services

A generally-accepted definition of payments for ecosystem services (PES) consists of the following elements:

- A *voluntary transaction*
- A *well-defined ecosystem service* or a land use likely to secure its provision
- At least *one buyer*
- At least *one provider effectively controlling service provision*
- If and only *if the ecosystem service provider secures service provision* (conditionality)

Source: Wunder (2007).

Designing payments for ecosystem services as a traditional contingent contract (i.e., payment made conditional on actual performance), differentiates PES from command-and-control regulatory attempts to prevent deforestation. The contractual nature of PES systems also separates them from incentive-based methods where payments occur prior to performance

³ UNFCCC. (2009) “Non-Paper No. 18: Policy approaches and positive incentives on issues relating to REDD”. sect. 2, p. 3. 7th Sess. AWG-LCA, Bangkok, Thailand. 8 October.

and potentially without recourse in case of non-performance. To achieve conditionality, PES payments ideally should occur following verified performance in measurable units of the ecosystem service. Unfortunately, conditionality has been difficult to achieve in projects, limited largely to PES examples in developed economies and Latin America.⁴

3.2.2 PES transaction types

In analyzing the distribution of benefits in PES projects, a primary inquiry should be made as to where the main transactions between buyers and sellers take place. PES transactions are generally negotiated via national regulatory frameworks if government-managed, or via private contractual arrangements if directly arranged between buyers and sellers.⁵ Be they privately or publicly arranged, PES transactions must address the allocation of benefits (i.e., how financial or in-kind payments flow from buyer to seller). In addition to these main concerns, a host of subsidiary issues are relevant to benefit-sharing contracts or regulations as well, such as the ecosystem services to be performed by the seller, period of performance, roles of brokers or other intermediaries, and environmental context considerations.⁶

In private PES deals, where buyers and sellers transact directly (or via decentralized government management), parties need signed contracts with legal due diligence, which ideally should be recorded in public land records. Lacking government regulatory enforcement of the PES agreement in private systems, contracts must specify the type, amount and duration of carbon sequestration services, buyer, seller and investor duties and responsibilities. For such contracts to function effectively, parties also require effective legal processes for enforcing agreements and contractual mechanisms to insure investments. The latter could be achieved either through contractual provisions on liability for non-performance or inability to perform (e.g., *force majeure* clauses in cases of natural disaster or expropriation), supplemental investment insurance, or by requiring buffer areas or banked reserve credits. Where private payments are made in a decentralized fashion to lower government levels or directly to local communities and project management groups, a tax or royalty may be due back to national-level governments, which would typically be designated for higher-level functions such as carbon accounting and forest monitoring.⁷

Public payment systems require far more comprehensive procedures, beginning with the legislation allocating and funding administrative agencies to manage the PES system, as well as defining the scope of such entities' work. Under public payment schemes, contracts must be made via centralized authorities in the national government, which then disburse payments to state and local-level governments, and to project administrators and local or indigenous communities. Legislative and regulatory rules must define the services offered for purchase in public PES systems, as well as the eligibility of buyers and sellers, performance criteria, monitoring standards, payment terms and protocol for breach of contract, thus integrating the

⁴ Bond, I. *et al.* (2009). *Incentives to sustain forest ecosystem services: A review and lessons for REDD*, p.5. Natural Resources Issues 16. London, UK: IIED.

⁵ See Scherr, S. *et al.* (2004). *For Services Rendered: The current status and future potential of markets for the ecosystem services provided by tropical forests*, pp. 55–56. ITTO Technical Series No 21. Yokohama, Japan: International Tropical Timber Organization (ITTO).

⁶ Waage, S. *et al.* (2005). “A Guide to Conducting Country-level Inventories of Current Ecosystem Service Payments, Markets, and Capacity Building”, p. 13. Washington DC, USA: Forest Trends.

⁷ van Noordwijk, M. *et al.* (2008). *Reducing emissions from deforestation and forest degradation (REDD) in Indonesia: options and challenges for fair and efficient payment distribution mechanisms*, p. 19. Working Paper 81. Bogor, Indonesia: World Agroforestry Centre (ICRAF).

full terms of the contract and ensuring its performance.⁸ Furthermore, public PES systems can offer a wide range of in-kind benefits, such as government services, no-interest loans, goods or tax credits, which can require greater regulatory planning and oversight than the cash payments generally only offered under private transactions.

3.2.3 REDD as a government-regulated, multi-level PES

From the general universe of PES incentive systems, four kinds of payment systems have been classified, as listed in Box 3.3 below. National regulatory frameworks are not necessary to facilitate the start-up and management of private project-level user-financed PES systems, such as voluntary corporate offsetting and eco-certification standards (types three and four in box 3.3). In these systems, project administrators can involve NGOs, community groups or private investors working with or without government coordination and contracting directly with domestic and international funders and investors.

Box 3.3 Four types of PES systems

1. *public payment schemes* to private land and forest owners to maintain or enhance ecosystem services;
2. *open trading between buyers and sellers under a regulatory cap or floor* on the level of ecosystem services to be provided;
3. *self-organized private deals* in which individual beneficiaries of ecosystem services contract directly with providers of those services; and
4. *eco-labelling of products* that assures buyers that production processes involved have a neutral or positive effect on ecosystem services.

Source: Waage et al. (2005).

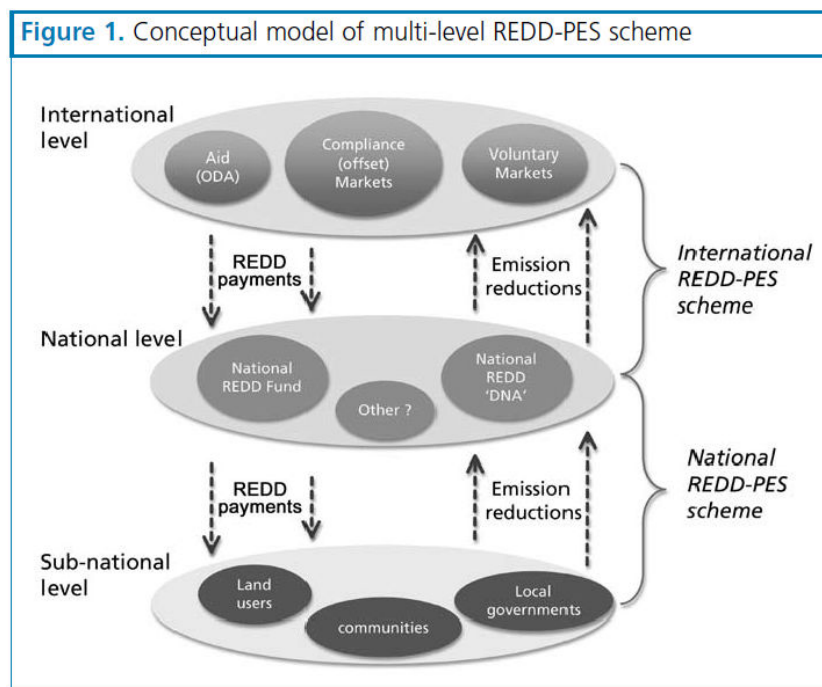
However, it is not likely that an internationally-binding REDD regime would be able to link forest carbon sequestration incentive payments directly with climate-neutral products, so the fourth PES category of eco-labelling will not be considered in this chapter. Similarly, self-organized, private PES incentives (Type 3) are not generally applicable to REDD, as the agreement envisions a “cap” on Party emissions driving the purchase of forest carbon emissions reductions, be they via public or private funds. (Theoretically however, a REDD regime or other legal framework for emissions reductions could provide incentives for either of these two PES systems). Thus, the focus in this chapter will be on the first two schemes that are most likely to find their way into a future REDD regime – a publicly regulated fund, and a private market under a regulatory emissions cap.

An international REDD regime has been described as a multiple-level PES scheme (see Figure 3.1), with a first set of international PES payment “in-flows” coming from international public or private sources to national or sub-national level authorities. Most likely such payments would be coordinated between a national fund and national REDD Designated National Authority (DNA), as under the current Clean Development Mechanism (CDM) of the Kyoto Protocol. Subsequently, a second set of PES “out-flow” payments would be made between the relevant national or sub-national authorities, and project-level participants.⁹ Of course, this schematic is rudimentary and does not fully encompass the

⁸ *Ibid.*

⁹ Bond *et al.*, *supra* note 4, pp. 5–6.

spectrum of potential design options still undecided in a future REDD regime, which, depending on the finance mechanism and management scheme chosen, may include direct international to sub-national payments.



Source: Angelsen and Wertz-Kanounnikoff (2008); Bond *et al.* (2009), p. 6.

Key messages: An internationally-financed and regulated REDD regime will require more comprehensive national legal frameworks than typical private or government-regulated systems. National legal provisions should be created or strengthened to ensure institutions and mechanisms facilitate benefit-sharing from the international to national or sub-national levels, via either national regulations or contractual safeguards if a private system.

3.3 National or sub-national framework

Coordination of accounting and reporting related to international financial in-flows with the national and sub-national activities requiring such funds will be a major factor in successfully linking a global multi-level REDD-PES scheme as well as in determining the level of regulation required for national REDD systems. As outlined below in Box 3.4, the main three options for REDD accounting schemes currently under consideration in international negotiations include national level accounting, project (or sub-national)-level accounting, and a hybrid (or nested) approach, which would allow for countries to aggregate accounting and reporting functions for various existing projects into an overall national approach.¹⁰ Bearing in mind the ideally contingent nature of PES agreements, as mentioned in Section 3.2.1, it

¹⁰ Angelsen, A. *et al.* (2008). "What is the right scale for REDD? The implications of national, subnational and nested approaches", pp. 31–32. CIFOR *infobrief* No. 15.

seems sensible from a project finance and contractual perspective to structure contracts in parallel with the level of accounting chosen under a future REDD regime (if that decision is made universally at the UNFCCC level).

Box 3.4 Three proposals on the geographical level or scale of REDD accounting and incentive mechanisms

A **national approach** envisions payments to be issued to a national representative body only when there is a reduction against the accepted national reference level. Local geographic areas, such as district or project areas, would not receive any direct rewards from international carbon buyers, even if making substantial reductions.

- **Pros:** allows for national policies, addresses domestic leakage; country ownership; lower MRV and transaction costs per CO₂ equivalent; low-cost (non-PES) policies available.
- **Cons:** favours middle-income countries; may not mobilize private investment or local government involvement; risk of powerful elite national elements capturing projects.

A **project (sub-national) approach** would require both REDD accounting and implementation to be focused on a defined geographic area or project site(s). Activities could be undertaken by individuals, communities, NGOs, private companies, and different levels of government. Monitoring, reporting, verifying (MRV) and payments would be performed only for sites in question.

- **Pros:** early involvement; wide participation by poor countries and those with weak governance; attractive to private investors; easy participation; can target poor groups.
- **Cons:** domestic leakage concerns; cannot address broader deforestation drivers; weak government involvement.

A **hybrid (nested) approach** would allow payments to go directly to projects that achieve reductions, and also to the national level if there is a proven overall reduction. Project and national accounting would need to be harmonized, and any emission reduction credits issued at the sub-national level would be deducted from the national accounting. This would likely lead to deficits at the national level, which would be offset through the rewards allocated when the country consistently makes proven national reductions.

- **Pros:** phased or joint private/public approaches possible; differentiated compensation mechanisms possible; flexibility allows sub-national projects to be compensated (where independently verified) even if no net reductions achieved at national level.
- **Cons:** challenges of harmonization between the two levels; high MRV costs (requires disaggregated national data).

Sources: The Center for People and Forests (2009); Angelsen *et al.* (2008).

Sub-national governments may be the most appropriate entities for assessing net changes in terrestrial carbon stocks, regardless of the institutional control over lands and vegetation. Decentralization, however, may lead to increased corruption and ‘elite capture’ at local levels, as powerful groups with government connections dominate target communities.¹¹ In addition, the relative contribution of forests to the economy is likely to be more obvious, and

¹¹ Casson, A. and Obidzinski, K. (2007). “From new order to regional autonomy: Shifting dynamics of illegal logging in Kalimantan, Indonesia”. In: Tacconi, L. (Ed.) *Illegal logging: Law enforcement, livelihoods and the timber trade*, pp. 43–68. London, UK: Earthscan.

economic uses of the forest are likely to carry greater weight at the local level than at the national level. Issues like carbon sequestration are thus likely to lose priority with decentralization. To minimize these problems, the central government can set general management goals and minimum standards for forest practices, as well as auditing or supervision functions.¹² Vertical allocation of REDD benefits also depends on where value addition occurs and on the opportunity costs occurring at each level. For example, in a national system, the government can be assumed to bear the costs of REDD monitoring and verification mechanisms, as well as for implementing any necessary policy and administrative reforms. However, the greater the level of devolution, the less economies of scale will exist and the higher the relative costs will be, as will be the opportunities for rent seeking. From the point of view of efficiency, then, it may be advisable to minimize the number of stakeholders.¹³

Conversely, national-level accounting systems would enjoy greater efficiency via economies of scale in the form of centralized project accounting, project administration and monitoring, as well as common definitions and regulations for national projects. As many countries own or control large portions of available forest land at either a national or regional level, relevant government forest managers would need to design and implement REDD activities just as they have commonly done with afforestation and reforestation (A/R) activities under the CDM.¹⁴ However, national governance capacity in many developing countries planning to host REDD activities is not currently adequate to fully perform the necessary monitoring and accounting functions, which furthermore lack adequate legal and institutional linkages with benefit-sharing decisions. Without adequate legal safeguards to ensure participation and objective selection of projects, centralized national systems may favour elite, larger projects and exclude small community initiatives, raising fairness concerns and preventing benefits from reaching local and indigenous landholders.¹⁵ Judging from past experience, there is no guarantee that participatory processes would be included to the extent necessary to ensure that centralized national REDD regimes work.¹⁶

National governments eventually should be able to centrally manage accounting and crediting mechanisms for their forest carbon emissions, as national-level carbon reporting will be critical in assessing international progress towards combating climate change. Given some countries' short-term national capacity difficulties, however, an interim hybrid framework may offer a compromise between sub-national and national accounting and crediting systems. Under this option, existing national and sub-national capacity may be leveraged simultaneously in countries via nationally-aggregated project baselines and monitoring, allowing for a dual-track system of national and project-based crediting and reporting on forest carbon emissions sequestered.¹⁷ Financial and in-kind public funding during this interim period could provide for the development of necessary laws and law enforcement

¹² Christy, L.C. *et al.* (2007). *Forest Law and Sustainable Development: Addressing Contemporary Challenges through Legal Reform*, p. 86. Washington DC, USA: World Bank.

¹³ See van Noordwijk *et al.*, *supra* note 7, p. 20.

¹⁴ Streck, C. and O'Sullivan, R. (2007). "Legal tools for the ENCOFOR Programme", pp. 9–10. Available online at <http://www.joanneum.at/encofor/tools/doc/Encofor%20Contracts%20Manual.pdf>.

¹⁵ Angelsen, A. (Ed.) (2008). *Moving Ahead with REDD: Issues, Options and Implications*. pp. 36, 115-16. Bogor, Indonesia: Center for International Forest Research (CIFOR).

¹⁶ Foti, J. *et al.* (2008). *Voice and choice: Opening the door to environmental democracy*. p. 32. Washington DC, USA: World Resources Institute.

¹⁷ Pedroni, L. *et al.* (2009). "Creating incentives for avoiding further deforestation: the nested approach". *Climate Policy* 9(2): 207–220.

capabilities, as well as legal and public financial management institutions, for equitable benefit sharing. From a legal perspective, a main goal of such work would be to develop integrated regulatory safeguards to monitor and ensure national monitoring, accounting and reporting correspond with credit or fund in-flows and benefit out-flows to sub-national-level recipients.

The nature of demand for carbon sequestration may also be an important consideration in determining the management structure for REDD frameworks. If government-to-government trading is preferred by Annex I Parties' national laws or is explicitly envisioned under a future REDD agreement, then national governments hosting REDD projects would be better off retaining control of carbon ownership and related benefits. However, if Annex I Parties' domestic legislation enacting a post-2012 agreement requires individual emitters to obtain offsets individually on an international market or directly from projects, and the REDD agreement is open to private funding, then developing countries may be more flexible in their choice of ownership and benefit distribution.¹⁸ In either instance, a hybrid approach could help to develop capacity for centralized national monitoring, accounting and reporting to the UNFCCC.

If the host country economy is faced with a volatile currency or poor market institutions, then it may be less practical to set up a national system based on direct payments in the national currency to sub-national or project levels, and in-kind payments might be preferred.¹⁹ Similarly, corruption is a pervasive concern in several of the developing countries likely to host REDD investments and can pose a problem even for some countries with quite sophisticated legal systems. However, greater room for both public and private graft might be found where laws and regulations are duplicative or opaque. Consequently, clear legislation and streamlined regulatory provisions facilitating independent investigations and auditing might offer one legal solution to ensuring that benefits reach their intended recipients.

In cases where countries devolve REDD systems to the project level, allowing for direct payments between landowner sellers and buyers, a basic set of regulations should govern such transactions. These regulations must encompass a wide spectrum of potential carbon sequestration services sellers, including corporations and medium- to large-sized landowners, as well as small-scale local and indigenous communities. With regard to benefit sharing for larger, commercial sellers, policy makers will need to design legal mechanisms guaranteeing just adjudication of contractual disputes. Specifically, such mechanisms should provide for financial recourse in the case of accidental or intentional deforestation, including the sophisticated scientific and financial considerations of carbon sequestration (as discussed in Chapter 1 on ownership and Chapter 4 on permanence). Conversely, legal provisions affecting smaller landowners and local and indigenous carbon sellers should be designed to protect their share of benefits, which could otherwise be put in jeopardy due to inadequate land title or access. Additionally, legal safeguards should include special measures to ensure smaller landowners are aware of and can participate in the design of benefit-sharing regulations affecting their forest land.

The case studies presented in Annex II show a range of management-level approaches. The Papua New Guinea (PNG) draft REDD Policy to be released in October 2009 is expected to

¹⁸ Rosenbaum, K.L., Schoene, D. and Mekouar, A. (2004). *Climate change and the forest sector. Possible national and subnational legislation*, p. 35. FAO Forestry Paper 144. Rome, Italy: FAO.

¹⁹ *Ibid.*

mandate national-level regulation of sales of carbon via voluntary carbon agreements.²⁰ Similarly, Indonesia (not surveyed in this study's cases but a major player in REDD) has taken a decisive stance towards national-level public administration and regulations of all REDD projects in the country via its national REDD and revenue-sharing regulations. In contrast, project benefits in Brazil are largely managed at a sub-national level, as in the case of the Juma Project, where payments were made to the state of Amazonas and later disbursed to government and community programmes as well as individual landowners.

Key message: Governments should develop capacity for full national carbon accounting and reporting as soon as possible. Countries needing time to do so in the early years of REDD should consider capitalizing on project-level monitoring and accounting capacity, potentially via a hybrid “phased” approach. Additionally, regulatory and contract safeguards for auditing, enforcement and revenue distribution should verify benefits correspond to actual emissions reductions and are received by the actors responsible for those reductions.

3.4 REDD benefit in-flows

3.4.1 Choice of finance mechanism

Although the scope of this publication is national-level REDD frameworks, international-level decisions regarding REDD funding will have important consequences for REDD benefit sharing at the national level. The clearest such implication will be the form of the benefit in-flow from international buyers to actors at the national level. Under a public fund approach, benefit payments may be in cash or in kind. Depending on the management approach chosen (e.g., national, project or hybrid, as described in the preceding section), public funds could be provided to governments, landowners or project developers. Under a private market approach, benefits would be in the form of carbon credits from either an international REDD oversight agency or some other crediting body.

National positions on REDD funding in international negotiations present a divergence of preferences for future REDD funding regulations. Brazil is currently on a two-track system, with the national government advocating public funding only for REDD projects at the international level and via its Amazon Fund, but states pursuing private carbon market funding for the numerous projects in their territories.²¹ PNG has no official projects to date, but the country has been a leader in UNFCCC negotiations in advocating access to carbon markets, and is expected to draft a REDD policy towards carbon credit sales.²² Indonesia has both publicly- and privately-funded projects, and like Guyana, which lacks projects, advocates a phased approach from public funds to markets. Cameroon, like many African countries preparing for REDD projects, currently only has publicly funded initiatives.

The additional significance of a choice of public or private funding for REDD lies in the different perspectives of government funders and individual investors with regard to risk. Governments and multilateral donors such as the World Bank (WB) are more likely to fund

²⁰ Baker & McKenzie, Covington & Burling LLP. (2009). “Background Analysis of REDD: Regulatory Frameworks”, pp. 62-63. Report prepared for the Terrestrial Carbon Group and UN-REDD Programme. Sydney, Australia: Baker & McKenzie.

²¹ *Ibid.*, pp. 50–52

²² *Ibid.*, pp. 16–17.

projects in least-developed countries and even politically or environmentally vulnerable areas, and also more interested in insuring that benefit-sharing schemes are fair, participatory and reach the relevant landowners. Thus far, carbon sequestration PES serving as pilot projects for REDD have mainly been funded publicly by bilateral and multilateral donors, with some voluntary corporate donations, in initiatives such as the UN-REDD, WB Forestry and Conservation Project (FCP), regional consortiums like the Congo Basin Forest Fund and the Amazonas Fund, as well as via traditional Official Development Assistance (ODA) initiatives.²³

By contrast, private investment funds and corporations purchasing offsets would be more likely to focus on finding secure investments providing a guaranteed return.²⁴ Despite a growth in standards such as the Climate, Community and Biodiversity (CCB) standards and others under the Voluntary Carbon Standard (VCS) guidelines for Agriculture, Forestry and Other Land Use (AFOLU) projects, private-sector participation has been minimal in REDD pilot projects to date, due in part to uncertainty regarding host country regulatory frameworks.²⁵ Based on African countries' experience of negligible private investment under the CDM, African Parties to the UNFCCC generally have pressed for public funding options for REDD in international negotiations, with some African countries insisting on public-only funding.²⁶

Additional uncertainty stems from the fact that the legal status of carbon sequestration investments in countries likely to host REDD projects may be unclear with regard to potential expropriation recourse under relevant bilateral or multilateral investment treaties.²⁷ Consequently, unless private investors in REDD projects draft strong contractual safeguards and host country judicial systems respect the norm of *pacta sunt servant* (i.e., faithfully uphold private contracts), investors could find themselves lacking recourse in countries lacking strong rule of law.²⁸ Thus, the inflated risk of countries with uncertain legal regimes would give further pause to private investors and depress such countries' international private funding. Strong rule of law in national REDD regimes, including revenue-sharing regulations, will therefore go far in instilling confidence in private investors, a fact not lost on Indonesia in becoming the first country to pass a national REDD law and accompanying revenue regulation.

3.4.2 Basis for a phased approach

Although healthy debate on REDD funding continues to date, research suggests a mix of both public and private funding may be necessary to ensure the necessary volume of carbon sequestration is purchased for climate change mitigation goals in a future agreement.²⁹ Notably, the 2008 Eliasch Review of forest carbon finance found that REDD investments

²³ Westholm, L. et al. (2009). *Assessment of existing global financial initiatives and monitoring aspects of carbon sinks in forest ecosystems – The issue of REDD*, p. 86. Focali Report 2009:01. Gothenburg, Sweden: Forest, climate & livelihood research network.

²⁴ Streck and O'Sullivan, *supra* note 14, pp.10–11.

²⁵ Baker & McKenzie, *supra* note 20, p. 20.

²⁶ Karousakis, K. and Corfee-Morlot, J. (2007). *Financing Mechanisms to Reduce Emissions from Deforestation: Issues in Design and Implementation*, p. 39. Paris, France: OECD (noting position of Central African Forest Commission (COMIFAC) Stabilisation Fund).

²⁷ See, e.g., Morgan, J.P. (2007). "Carbon Trading Under the Kyoto Protocol: Risks and Opportunities for Investors". *Fordham Environmental Law Review* 18: 151–184, pp. 170–175.

²⁸ *Ibid.*

²⁹ Stern, N. (2006) "Executive Summary". In: Stern, N. *The Economics of Climate Change: The Stern Review*, p. 537. Cambridge, UK: Cambridge University Press.

must total US\$17–33 billion annually in order to halve GHG emissions by 2030, but a modelling scenario of carbon market funding would only supply US\$7 billion. In order to meet emissions reductions targets under this projection, then, the US\$10–26 billion shortfall in funding would then need to be supplied by Annex I public funding.³⁰

Given the probability that private investment would be weaker in higher-risk countries, it could be necessary to ensure public funding at least during an interim period (i.e., by an international REDD funding “phased approach”) for countries where private funding may not be available. If public funding occurs in a preliminary phase, high-risk countries may take advantage of the wider array of financial and capacity-building benefits, and less risk-averse support, than private markets might allow. In doing so, however, public funders will need assurances from host country governments that forest governance will be improved during that interval, or such risk will end up being subsidized indefinitely and result in moral hazard.³¹ During that interim time period, publicly funded cash and in-kind benefits could focus on improving legal mechanisms in relatively risky countries with inadequate rule of law, including legal provisions to ensure benefits reach their intended recipients. As forest carbon sequestration units would not be available in the early part of such an interim phase, public funding could retain its original contractual nature (rather than become pure development aid) by making payments conditional on proxy indicators for forest governance reform efforts, as under consideration in UNFCCC negotiations at the time of this chapter’s writing.³²

Key message: National legislation should clarify and strengthen private investment recourse mechanisms and contract enforcement standards in order to increase private investor confidence in higher-risk REDD candidate countries. Ideally, a preliminary phase of public funding should be used in countries lacking capacity as an opportunity to develop requisite laws and institutions.

3.5 REDD benefit outflows

3.5.1 Actors receiving benefits under national frameworks

In considering legal mechanisms to channel funds in order to attain the maximum results (i.e., equity, efficiency and effectiveness, as outlined in this book’s introduction), it is helpful to consider the main national actors needed for long-term, effective REDD governance, as well as their disparate needs. Nationally, incentives for good forest governance should be divided

³⁰ Eliasch, *supra* note 2, p. 222.

³¹ Moral hazard refers to the “risk or probability of loss or injury, esp. a loss or injury covered by an insurance policy.” (Black’s Law Dictionary, 7th Ed: 2009). In this case, the term refers to the potential for publicly-funded countries permanently insulated from market competition to avoid making the necessary forest governance reforms for REDD, thus resulting in risk of continued deforestation.

³² UNFCCC *supra* note 3, p. 3. (“Actions to be undertaken by Parties [...] in combination with compensation for proxy-based results for emission reductions [and removals] (phase 2)”). See also Streck, C. *et al.* (2009). *REDD+ Institutional Options Assessment: Developing an Efficient, Effective, and Equitable Institutional Framework for REDD+ under the UNFCCC*. pp. 4-5. Meridian Institute (describing the steps of a potential “Phase 2a” scenario for public funding of proxy-based results).

primarily among governments, private landowners, and local and indigenous communities.³³ In addition to these three main national actor groups, benefit-sharing laws cannot overlook outside (or foreign) investors, as well as a host of supporting participants. Such consideration of actors and their respective needs is especially relevant for the early years of national REDD initiatives, when national capacities and legal frameworks for forest governance must be improved quickly.

Both as the primary agents of REDD national governance and major landowners of forest lands in many tropical forest countries,³⁴ national and sub-national governments will require special capacity-building and technical support for the development of new laws or regulations, and potentially for the modification and streamlining of existing laws. In addition, funding would be needed for increased government administration, monitoring and enforcement costs, the latter two of which would work in tandem with financial incentives to curb illegal deforestation activities. As the Juma Project overview in the Brazil case demonstrates, numerous other auxiliary government services could require funding in delivering on long-term REDD projects as well, such as health, education, and local capacity building.

As the main stewards of privately owned or controlled forests, private landowners are generally the most market-oriented of national actors and thus the most prone to various deforestation drivers in REDD candidate countries.³⁵ Depending on the national context, such drivers can include logging, agriculture, livestock, mining or biofuels interests. As such, this group will require financial incentives primarily to compensate for the opportunity costs of avoided deforestation on their lands. The third group of REDD actors, local and indigenous communities, is comprised of people living on or nearby forest lands with customary or formal legal access or ownership rights to those lands. Given the often close and enduring connection between local and indigenous communities and their forest lands, this group's receipt of fair incentives for participation in and support of REDD projects will be essential to long-term forest conservation.

Based on national experiences with A/R projects under the CDM, where sophisticated Kyoto Protocol and UNFCCC procedures and modalities required extensive reliance on international expertise, the early years of national REDD efforts will likely need similar assistance.³⁶ Beyond these three groups of national actors, then, a large number of private or public outside investors will be needed at the sub-national or national levels to develop projects and facilitate transactions, and thus also must be included in the distribution of benefits. This category would include investors, insurance services, project designers and developers, business and technical services, and financial intermediaries such as carbon credit brokers. Based on PES experiences, an adequate domestic supply of private intermediary institutions would not be available in the early phases of REDD development and as a result

³³ Johns, T. *et al.* (2008). "A three-fund approach to incorporating government, public and private forest stewards into a REDD funding mechanism". *International Forestry Review* 10(3): 458–464, at 461–463 (explaining that actors in government, private landowner stewards and public forest steward groups would have their respective benefit shares delineated in a public funding phase and subsequently phased out in the progression towards private market funding, and each could receive individually tailored capacity-building support during the interim public funding phase).

³⁴ Karousakis and Corfee-Morlot, *supra* note 26, p. 36.

³⁵ Johns *et al.*, *supra* note 33, p. 462.

³⁶ Robledo, C. *et al.* (2008). *Climate Change and Governance in the Forest Sector: An overview of the issues on forests and climate change with specific consideration of sector governance, tenure, and access for local stakeholders*, p. 21. Washington DC, USA: Rights and Resources Initiative.

must be facilitated by government agencies or NGOs. As such processes mature, private institutions should take over such roles, allowing governments to concentrate on setting regulatory frameworks for REDD and rules for public payments, as well as overseeing participatory processes and land ownership and use rights issues.³⁷

As national contexts will differ widely among countries hosting REDD projects, governments will need to assess their own unique set of national stakeholders, social and natural resource dynamics, and deforestation drivers. Lessons from past and ongoing PES projects largely support direct payments to people responsible for providing the ecosystem services, here generally the local and indigenous communities living in or around forests, protecting and maintaining them.³⁸ However, governance measures will require significant funding, and without adequate incentives for private landholders or foreign investors, REDD programmes may not be feasible. Where funds are limited, countries may allocate funds horizontally according to prescribed criteria and establish benefit eligibility via competitive bidding processes, with safeguards to ensure smaller landholders and marginalized groups are not disfavoured by such practices.³⁹

Key message: National legislation should partition benefits among primary REDD forest governance actors, as well as outsiders facilitating project start-up and administration. Processes for apportioning benefits must be unbiased and participatory, and oversight provisions coupled with law enforcement mechanisms should ensure benefits reach intended recipients, in particular those lacking information or access to justice such as local and indigenous communities.

3.5.2 Benefit options at the sub-national level

The determination of what constitutes a “benefit” to local recipients depends in part on where the locus of payments is established and which entities distribute benefits under what regulations. Although benefits at the international level are commonly equated with price-per-ton of carbon sequestered, benefits can take a variety of forms at the local level (including direct payments in carbon units, if a privately financed, sub-national approach is taken). Ideally, benefits also should include opportunity cost and carbon sequestration considerations, as described below. For example, while governments or forest carbon sellers generally receive lump payments on a per-credit basis in private transactions via international carbon markets, voluntary carbon-offset deals can compensate sellers directly on a continual basis via cash or in-kind payments (as in the case of the Juma Project in Brazil). By comparison, publicly funded approaches and government-managed systems potentially would be able to structure payments to landholder sellers via an even wider array of alternative benefit streams.

Examples of benefits from PES and REDD pilot projects include direct financing in either fixed terms or royalties linked to market prices, subsidies or tax credits (discussed further below), education and capacity building, local development projects, loans, debt swaps and

³⁷ Scherr, S.J. *et al.* (2006). *Developing Future Ecosystem Service Payments in China: Lessons Learned from International Experience*, pp. 30–31. Washington DC, USA: Forest Trends.

³⁸ Karousakis and Corfee-Morlot, *supra* note 26, p. 35.

³⁹ See van Noordwijk *et al.*, *supra* note 7, p. 20.

employment opportunities.⁴⁰ Possibly solving the challenges of unclear land title and inadequate funding for benefits simultaneously (although not without the potential for misuse itself) conditional land rights have been used as a payment to landholders instead of cash in the Sumberjaya PES project in Indonesia.⁴¹ Access to or use of NTFPs presents another type of benefit, which some researchers on forest carbon PES theorize could allow for reduced cash or credit compensation to such landholders, given the relatively lesser opportunity cost of avoided deforestation on such lands.⁴² In this regard, the Bonn Guidelines for national access and benefit-sharing regimes give examples of the wide range of benefits with which national governments have chosen to compensate citizens for commercialization of their genetic resources under the CBD. The Guidelines may also provide lessons for REDD national law development on integration in benefit-sharing arrangements between the national and international levels, as highlighted in Box 3.5 below.

Box 3.5 Guidelines for national legal arrangements addressing ABS under the CBD

The CBD recognizes States' sovereign rights over their natural resources, and specifically under Article 15.1 States have authority to determine control over access to genetic resources (GR) via national legislation. The CBD does not list the exact benefits to be shared. However, the wording of Article 15.7 encompasses a broadly-conceived notion of benefits, including commercial and non-commercial benefits, and results of research and development. Furthermore, Article 16 includes transfer of technology as a benefit that the providing country should receive in exchange for access to GR. Since the adoption of the CBD, some developing countries have formulated laws on ABS. Other countries with less genetic resources have neglected to enact any ABS legislation, implying a "free access" system subject to domestic property law. The Bonn Guidelines to the CBD, a nonbinding document designed to help Parties implement national ABS regimes, echoes the CBD's respect for national sovereignty, stating in Paragraph 4 that "Nothing in these Guidelines should be interpreted to affect the sovereign rights of States over their natural resources". The Guidelines list an extensive yet non-exhaustive number of monetary and non-monetary benefits that may arise from the utilization of genetic resources.⁴³ Implementation of the Bonn Guidelines in India, Brazil, the Philippines and South Africa shows a range of national perspectives on benefit-distribution regulations and types of benefits governments have allocated to local and indigenous citizens in return for use of their natural resources.

- Under the state-centralized GR management chosen in India, the federal administrative authority charged with administering its national biological diversity legislation was given discretion to direct financial payments to individuals, groups or organizations if biological resources or associated knowledge were acquired from them.⁴⁴ Otherwise, such payments are placed in a National Biodiversity Fund.⁴⁵

⁴⁰ *Ibid.*, pp. 15–18

⁴¹ Bond *et al.*, *supra* note 4, p. 9.

⁴² Ogonowski, M. *et al.* (2009). "Utilizing Payments for Environmental Services for Reducing Emissions from Deforestation and Forest Degradation (REDD) in Developing Countries: Challenges and Policy Options", p. 15. Washington DC, USA: Center for Clean Air Policy.

⁴³ Secretariat of the Convention on Biological Diversity (SCBD). (2002). *Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization*, Appendix II, p. 18 ("Monetary and Non-Monetary Benefits"). Montreal, Canada: SCBD.

⁴⁴ The *Biological Diversity Act*, 2002, § 21(3).

⁴⁵ The *Indian Societies Registration Act*, 1860.

- In Brazil, centralized GR management has also evolved, and access is granted only with a signed contract of use and benefit sharing. A provisional measure defines “benefits” as including sharing of profits; payment of royalties; technology transfer; licensing of products and processes without cost; and capacity building.⁴⁶ However, currently no Brazilian legal mechanism exists to ensure equitable contract terms or regulate benefit distribution.⁴⁷
- The Philippines takes a more formulaic benefit determination than Brazil or India, despite a similar centralized approach to GR control. In the Philippines, an Executive Order requires applicants to pay royalties or other compensation to the national government and indigenous or local communities concerned, and applicants are to conduct research in collaboration with national scientists and institutions.⁴⁸
- In contrast with the centralized state GR control of others, South African law regards all biodiversity as private property, thus proclaiming that no property may be taken without a non-arbitrary use of a general law with a public purpose and requiring compensation to the owner.^{49,50} Under South African biodiversity legislation, an access permit is granted only if the applicant and a stakeholder have entered into a benefit-sharing agreement duly approved by the Environmental Ministry.⁵¹ Benefits can be whatever the parties decide, and the national government oversees the contracts to ensure that they are reasonable. The Act also establishes a Bio-prospecting Trust Fund into which all payments are made and benefits are distributed.

Sources: Roberts (2009); Secretariat of the Convention on Biological Diversity (2002), Appendix II; Carrizosa *et al.* (2004), p.14.

Additionally, national experiences in benefit sharing under the CBD demonstrate that nationally-based REDD regimes offer governments the chance to determine not only the types of benefits devolved to local participants, but also whether benefits are due automatically or only at government agency discretion. Moreover, the case of Brazil underscores that benefits defined in law lack meaning if not coupled with legal mechanisms to ensure delivery to actors.⁵²

3.5.3 Taxes, subsidies and state payments

Benefit streams to landholders likely will be affected by tax regulations. National governments could also require a portion of credits from REDD programmes, or revenue from the sale of such credits. As described above, taxes and royalties to the national government would make more sense where projects are funded in a decentralized fashion to provincial authorities or directly to projects, as national authorities could take their portion of REDD credits or revenues directly from national in-flows. Given the ‘public good’ nature of

⁴⁶ *Medida provisória Nº 2.186-16 sobre o acesso ao patrimônio genético*, 2001 (Provisional measure on access to genetic resources and traditional knowledge), Art. 25.

⁴⁷ Tustin, J. (2006). “Traditional Knowledge and Intellectual Property in Brazilian Biodiversity Law”. *Texas Intellectual Property Law Journal* 14: 131–162, at 131 and 147.

⁴⁸ *Executive Order 247 on Access to Genetic Resources* of 1995, § 5(e).

⁴⁹ Bond *et al.*, *supra* note 4, at 229.

⁵⁰ *Constitution of the Republic of South Africa*, § 25(1).

⁵¹ *National Environmental Management: Biodiversity Act 10 of 2004* (Jun. 7, 2004).

⁵² Peskett, L. *et al.* (2008). “Making REDD work for the Poor”, p. 4. A Poverty Environment Partnership (PEP) Report. IUCN; ODI; UNDP; SIDA; ADB; DFID; Ministère de l’Ecologie, de l’Energie, du Développement durable et de l’Aménagement du territoire; UNEP-WCMC.

GHG mitigation, governments may decide taxpayers should participate in its encouragement. Under government-managed programmes, tax credits, subsidies, and other forms of state benefits can also constitute incentives for forest protection, as exemplified in the cases from Costa Rica and the Dominican Republic in Box 3.6.

Box 3.6 State tax credits as PES incentives for forest projects in Costa Rica and the Dominican Republic

Costa Rica and the Dominican Republic offer examples of government tax credits and state subsidies to pay landholders for protecting forests. In 1996, Costa Rica passed a new *Forestry Law* (No. 7575). Article 46 of the law creates the National Forest Finance Fund (FONAFIFO). Article 22 of the law allows FONAFIFO to issue forest landowners certificates for forest conservation (CCBs) representing payment for ecosystem services. The landowners can use CCBs to pay taxes and other fees owed to the government. Similarly, in December 1999, the Dominican Republic enacted a new forest law (*Ley 118-99*). Article 95, paragraph I of the law allows the national forestry agency, INAREF, to adopt regulations creating special incentives to promote the valuation of the ecosystem services of forests, including carbon fixation. The State will also issue negotiable reimbursement certificates to finance 80 percent of the expenses of capital and investments made in the establishment and handling of plantations and management and protection of forests. The expenses include payment of all the existing taxes.

Source: Rosenbaum et al. (2004), pp. 25 and 27.

Ideally, national framework REDD regulations should specify clearly the form and amount of taxes, royalties, credits or revenues to be paid to the state, where such funds are to be directed (e.g., state climate change adaptation fund or government capacity building), as well as what amounts would be left for state programmes and local populations. The cases show a wide divergence in state tax and royalty treatment of REDD pilot projects. PNG envisions dedicating a two percent tax on REDD projects to an adaptation fund, while Cameroon⁵³ and Guyana will take all REDD proceeds at the national level and redistribute them among government offices and local communities. Guyana has not finalized its benefit-sharing arrangement, but it has specified that it intends to manage revenues via a newly established national Low-Carbon Finance Authority. In Brazil, funds such as the national Amazon Fund and state of Amazonas climate change fund would pay for ecosystem services including avoided deforestation but State authorities may take a portion of the revenues from their respective local initiatives, such as the Juma Project's payments to Amazonas. The state of Amazonas has devised a system of monthly "forest grants" (*Bolsa Floresta*) to pay households for non-destructive forest activities in "sustainable development" protected areas, as outlined in Box 3.7. It is worth noting that family payments are made to wives, as the family members typically responsible for household expenses and much of the work in REDD programmes, thus reducing potential gender inequities in *Bolsa Floresta*.

Box 3.7 Forest conservation grants under the State of Amazonas *Bolsa Floresta*

Type of forest grant	Beneficiary	Amount (in Brazilian Reais)	Payment	Use of resources
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⁵³ In Cameroon, state royalties in accordance with the 1994 forestry legislation have been proposed on REDD pilot project revenues, which the state will redistribute.

		(R\$)		
Forest Grant	Family (wife)	R\$50 a month	Via specific programme card	Family expenses
Community investment programme	Reservation communities	Average of R\$4,000 a year	Straight transfer to the community or credit in local commerce system	Investments in activities for the generation of sustainable income
Forest grant association	Association of reservation dwellers	10% of the annual amount received by all the families of dwellers paid once a year	Transferred directly to the association or credit in the local commerce	Expenses as discussed and approved by the communities in meetings

Key message: National legislation for benefit-sharing should specify clearly what benefits will be distributed to which sub-national actors (as well as what taxes or royalties are due to national governments) and, in conjunction with local participatory processes, consider the range of benefits at government disposal. These state benefits may include such forms of compensation as royalties on project revenues or credits, tax relief and subsidies, or land ownership or use made conditional on performance.

3.5.4 Transaction considerations

A number of transactional issues will have important implications for benefit-sharing goals of REDD, and thus should be considered in the design of national legal frameworks. Most such considerations are relevant to both national and project-level systems, albeit with greater government involvement and regulatory control in national systems.

As REDD agreements are a form of contingent contract requiring performance of the promised service before payment, ideally payments should be made *ex-post* in order to ensure environmental integrity.⁵⁴ Although cap-and-trade systems generally have integrated compliance measures to ensure environmental integrity, baseline and credit mechanisms as contemplated in a future REDD system would lack such insurance, further supporting the need for *ex-post* payments.⁵⁵ However, due to the inherent uncertainties in carbon sequestration project performance and establishment of credits, sellers likely will try to build flexibility into the time frame and volume of credits to be delivered.⁵⁶ Small landholder sellers most likely will need partially *ex-ante* payments due to their relatively high start-up administrative costs, but such needs may be addressed by scheduling payments over regular intervals, thus maintaining incentives for long-term permanence in carbon sequestration.⁵⁷ Where projects depend on significant direct financing from a single donor government or consortium of governments, and thus continuing political support behind such funding,

⁵⁴ Karousakis, K. (2007). *Incentives to reduce GHG emissions from deforestation: lessons learned from Costa Rica and Mexico*, p. 35. Paris, France: Organisation for Economic Co-operation and Development (OECD).

⁵⁵ *Ibid.*

⁵⁶ EcoSecurities. (2007). "Policy Brief: REDD Policy Scenarios and Carbon Markets", p. 7. Oxford, UK: EcoSecurities.

⁵⁷ See van Noordwijk *et al.*, *supra* note 7, p. 21.

projects should be structured to deliver credits and make payments in shorter intervals between political cycles.⁵⁸

In order to reduce transaction costs and include smaller landholders' participation, collective contracts can be used to bundle carbon contracts with smaller landholders, as has been done with success in PES programmes in Mexico and Costa Rica.⁵⁹ Regulatory safeguards should ensure smaller landholders have both adequate awareness and the opportunity to bundle two or more nearby projects into a single REDD unit, and legal provisions should clarify the mechanics of such procedures as well as how landholder rights and responsibilities are affected.⁶⁰ Prior informed consent should be offered in this regard, in particular to local and indigenous communities.⁶¹

In determining prices to pay landholders (or percentages of revenues, depending on the REDD scenario), incentives must be designed to ensure both those currently deforesting are given a reason to stop deforesting, while also benefiting those parties who have never engaged in deforestation but are dependent on the forests themselves (and might have a perverse incentive to begin deforesting if not compensated).⁶² Where possible, REDD payments to poor groups in particular may be pooled with further PES payments rewarding protection and enhancement of other ecosystem services such as biodiversity or water management. Given that REDD projects will occur in developing countries with underdeveloped market institutions and few related service providers (e.g., lawyers, accountants, consultants), transaction costs are generally high for all parties, which takes an especially high toll on local and indigenous communities with scarce resources for such ventures, unless their services are bundled successfully.⁶³ In PES projects to date, such groups have often received payments from intermediaries far below what buyers pay for the services, underscoring the need for eliminating multiple layers in forest carbon transactions.⁶⁴

Research from past PES projects shows that even small payments can represent a helpful extra income source to landowners or service providers already successfully managing carbon sequestration and facing few start-up costs (as in the case of Guyana, given its low historical deforestation rate).⁶⁵ Conversely, the higher the start-up or the opportunity costs of preserving forest (i.e., the higher the number of alternative uses for forest land and resources that undermine carbon sequestration, or deforestation rate by proxy), the greater payments must be in order to affect local behaviours.⁶⁶ Policy makers thus should strive to align carbon prices on international markets with national payments, as well as to permanently mitigate national deforestation drivers by ensuring payments change behaviours over the long term.⁶⁷ Preferably, payments should balance the need to reward landholder activities relative to both

⁵⁸ *Ibid.*, pp. 9–10

⁵⁹ Bond *et al.* *supra* note 4, p. 13. *See also* Karousakis, *supra* note 57, p. 36 (citing examples of PES programmes in Costa Rica and Mexico with transaction costs of 18 percent of total costs).

⁶⁰ Baker & McKenzie, *supra* note 20, p. 13.

⁶¹ Manguiat, M.S.Z., *et al.* (2005). *Legal Aspects in the Implementation of CDM Forestry Projects*, p. 31. IUCN Environmental Policy and Law Paper No. 59. Gland, Switzerland and Cambridge, UK: IUCN.

⁶² Moutinho, P. and Schwartzman, S. (2005). *Tropical Deforestation and Climate Change*. Belém, Brazil: Instituto de Pesquisa Ambiental da Amazônia (IPAM); and Washington DC, USA: Environmental Defense (ED).

⁶³ Bond *et al.*, *supra* note 4, pp. 11–13.

⁶⁴ *Ibid.*

⁶⁵ Scherr *et al.* (2006), *supra* note 40, p. 35.

⁶⁶ *Ibid.*

⁶⁷ Ogonowski, *supra* note 45, pp. 13–14.

units of carbon sequestered and opportunity costs of forest hectares preserved.⁶⁸ Furthermore, payments could be made dynamic rather than static, to reflect changing opportunity costs and international carbon prices.⁶⁹ Although complicated, such considerations might be incorporated in contracts with an updating clause, or via regulations specifying formulas for determining payments based on local and international indices, analogous to tax codes.⁷⁰ The dangers of instituting payments for ecosystem services without connecting those payments to recipients' opportunity costs (and without adequately safeguarding payments from favouritism) are shown in the example from Costa Rica in Box 3.8 below.

Box 3.8 PES benefits for forest ecosystem services in Costa Rica

During the latter half of the 20th century, Costa Rica's deforestation rate was among the highest in the world due to expansion of the road system, cheap credit for cattle, and land titling laws that encouraged deforestation. Conservation policies in later years slowed deforestation rates considerably, but the country's forests remained under threat from illegal logging and agricultural expansion. In 1996, the country adopted a new *Forestry Law* (No. 7575) recognizing the environmental services provided by forests, which laid the groundwork for a new policy the following year of *Pagos por Servicios Ambientales* (PSA). The PSA programme recognizes four environmental services provided by the forest: carbon fixation; hydrological services; biodiversity protection; and provision of scenic beauty. PSA goals are met through site-specific contracts with individual farmers, who are eligible to receive annual payments for forest protection, reforestation, sustainable forest management (discontinued in 2003), agroforestry, and natural forest regeneration (beginning in 2006).

The overall effectiveness of the programme is difficult to determine, however. The PSA programme was instituted at the same time as a package of other measures, including a ban on clearing forest. Changes in the profitability of livestock production had also reduced pressure to convert forests to pasture, particularly in marginal areas. In addition, many PSA participants stated they would have protected their forest even in the absence of the PSA programme. Several studies indicate that many of the funded projects may not have been additional, given that the selection process does not consider differences regarding risk of deforestation and opportunity costs. The bulk of programme benefits also tend to go to larger and relatively better-off farmers, those more familiar with the forest engineers in charge of promoting the programme and with forestry-related subsidies. Costa Rica's national law also forbids using public funds to pay landholders who lack formal title, which discouraged the participation of the poor early on in the programme.

Sources: Pagiola (2008), as cited in Ogonowski *et al.* (2009), pp. 5–6; Peuker (1992).

If REDD host countries can create comparable flexibility in payments according to opportunity costs and carbon units, the additionality problem of rewarding landholders in countries with a low deforestation rate (e.g., Guyana) relative to those in countries with a high deforestation rate (e.g., Brazil) could be resolved. However, as mentioned above, incorporating sophisticated legal, economic and financial considerations into national law could be overly complicated for countries with insufficiently developed legal structures and institutional capacity, and methods for determining payments may depend on national

⁶⁸ *Ibid.*, p. 14.

⁶⁹ *Ibid.*, p. 15.

⁷⁰ See van Noordwijk *et al.*, *supra* note 7, p. 20.

context.⁷¹ Standardized measures should be developed and implemented where possible in order to simplify rule making, such as standardized carbon emissions reference levels, whereby a central international body could verify reference levels and a third-party verifier would only need to confirm activities performed.⁷² Increased government legal and other technical capacity in such areas might be addressed during an initial public funding phase.

If REDD programmes are structured to completely restrict access to forests, then the full opportunity costs must be paid to local communities for their lost forest land or they will not participate and potentially even undermine the system given the chance, as seen in the Cameroon case. Where entire forest communities' livelihoods are affected by REDD projects, benefits may be seen as a means of offsetting both opportunity costs and disruption to such inhabitants, providing an argument that in-kind project benefits like employment, community forest access, and local use of project infrastructure should also be considered.⁷³

If benefits are distributed purely in terms of opportunity cost and designed primarily for effectiveness in halting deforestation, ignoring social equity concerns, such policies could backfire if perceived as unjust (as the Cameroon case describes). Policy makers may also face a difficult decision between paying loggers to stop deforestation, which may result in greater short-term effectiveness, and paying local or indigenous communities customarily owning or maintaining at-risk forests that have never deforested.⁷⁴ If payments exclude law-abiding in favour of law-breaking citizens however, moral hazard could result, encouraging groups not deforesting to backlash or to begin deforesting in order to receive benefits.⁷⁵

Key message: National legislation should ensure that payments to landholders and forest stewards are structured *ex post* or at intervals to ensure conditionality; include both units of carbon sequestered and opportunity costs of forest hectares preserved; and are flexible in order to reflect changing opportunity costs and international carbon prices. Provisions should guarantee that smaller landholders and local and indigenous communities are able, and have access to information explaining how, to bundle their projects to reduce transaction costs.

3.5.5 Balancing benefits between local communities and outside investors

National governments will need to determine the proportion of credits or payments that will be shared with outside investors and project developers (either via direct revenue-sharing regulations if a nationally controlled regime or by taxes and royalties if a sub-national or private scenario). Such investors will be needed to play a key role in financing start-up costs and providing technical guidance, and governments will compete for their attention especially in the high-risk years of REDD pilot projects. Although such parties are generally sophisticated enough to require few benefit-sharing safeguards (foreign investors in particular), states may be better able to balance outsiders' and locals' compensation needs by offering an attractive investment climate to outsiders. That is, in lieu of exaggerating

⁷¹ Rosenbaum *et al.*, *supra* note 18, p. 35.

⁷² Scherr *et al.* (2006), *supra* note 40, pp. 46.

⁷³ Rosenbaum *et al.*, *supra* note 18, p. 45.

⁷⁴ Skutsch, M. *et al.* (2007). "Clearing the way for reducing emissions from tropical deforestation". *Environmental Science and Policy* 10(4): 322–334, at 331.

⁷⁵ Pagiola, S. (2008). "Assessing the Efficiency of Payments for Ecosystem services in Costa Rica". *Ecological Economics* 65: 712–724, as cited in Ogonowski, *supra* note 45.

outsiders' revenue shares to the detriment of locals, states can attract outside investors by providing them with recourse to domestic courts and tribunals, protecting their investments from expropriation risk by joining international investment agreements. Additional means to attract investors include stabilizing land ownership and use regulations, and clarifying and better enforcing environmental laws.⁷⁶ In order to help link foreign investment and poverty alleviation goals with those of climate mitigation, states may create tax credits or other incentives for investors that join associations with smaller landowners and local and indigenous communities (principally where investors help build local capacity and transfer knowledge).⁷⁷ Such investment incentives could give poor or marginalized groups the chance to overcome their handicaps of relatively high start-up costs and weak technical capacity, when applying for compensation for forest carbon sequestration.

The benefit-sharing mechanisms described in the case studies, and other national regulations surveyed, suggest local and indigenous communities may be at risk of not receiving adequate shares of benefits, especially in light of the high potential for corruption. In REDD pilot projects in Cameroon and Brazil, the majority of state revenues were allocated to government activities and government-run social programmes, with the smallest percentage going to direct landholder payments (10 percent or less). In contrast, carbon agreements in PNG to date have allocated 80 percent of benefits to landowners, with another 10 percent to developers and monitoring services each.⁷⁸ However, the PNG government has not confirmed benefit ratios for REDD programmes, and recent fraudulent carbon sales in the country underscore the need for strong safeguards on benefit sharing. Indonesia presents an exception to the general lack of clarity in national benefit sharing, as its July 2009 *REDD Revenue-Sharing Regulation* is the first of its kind in anticipation of the UNFCCC agreement on REDD, classifying forest carbon projects into ten types and varying payments accordingly.⁷⁹ Under the new regulation, national, municipal, and provincial government would receive 10–50 percent of carbon credit funds from forest projects, while local forest communities would receive 20–70 percent of such funds, with the ratio split between government and local communities dependent on the type of forest.⁸⁰ For example, in “customary” forests, government would receive 10 percent, communities 70 percent, and developers 20 percent.⁸¹ Despite the regulation's clarity, however, indigenous groups in Indonesia have contended that REDD will nonetheless disadvantage them.⁸² Perhaps the most significant factor boding poorly for indigenous people there, as described in Chapter 1, is Indonesia's 1999 *Forestry Law*. There, the government classifies all forests as State-owned, excluding local and indigenous communities from ownership, and allowing use and access on customary forests only “as long as they are evidently in place and their presence is acknowledged”.⁸³

⁷⁶ Scherr *et al.* (2006), *supra* note 40, pp. 48–49.

⁷⁷ Robledo *et al.*, *supra* note 39, pp. 21 and 23.

⁷⁸ Baker & McKenzie, *supra* note 20, p. 16.

⁷⁹ *Indonesian REDD Revenue-Sharing Regulation (Peraturan Menteri Kehutanan)*, Republik Indonesia, Nomor: P. 36/Menhut-II/2009.

⁸⁰ *Ibid.*

⁸¹ *Ministry of Forestry Regulation P.36/2009 about Business Licensing Procedures for Use of Absorption and/or Carbon Storage in Forest Production and Protected Forest.*

⁸² Forest Peoples Programme *et al.* “Request for further consideration of the situation of indigenous peoples in the Republic of Indonesia under the early warning and urgent action procedures (Seventy fifth session of the Committee on the Elimination of Racial Discrimination)”. Letter to Mr. Torsten Schackel, Secretary, UN Committee on the Elimination of Racial Discrimination, 29 July 2009.

⁸³ *Ministry of Forestry Republic of Indonesia Decree P.36/2009 Regarding Procedures for Licensing of Commercial Utilisation of Carbon sequestration and/or Storage in Production and Protected Forests*, Article

Key message: Laws and regulations should seek to attract outside investors by providing a stable investment environment rather than overly compensating such actors to the detriment of local participants. Benefit-sharing regulations should provide for public participation, and in particular, payments promised to local and indigenous communities should be safe from subversion via issues such as land ownership and access or corruption.

3.6 Conclusions

A challenge exists in developing national legal frameworks for REDD before Parties to the UNFCCC have agreed on a final international framework. This difficulty is true for benefit-sharing mechanisms in particular, given the overlapping possibilities for accounting and reporting levels (national, project, or hybrid), international payment channels (public fund or private market) and sub-national payment forms (government-regulated funding or carbon credits via private contract). Regardless of the details of a future international framework, however, the host of legal issues contemplated in this chapter demonstrate that countries will need to quickly develop legal, institutional and public financial management capacity to provide the necessary strong rule of law and safeguards for local and indigenous community forest stewards in particular. In addition, legislation incorporating clear, harmonized legal procedures and rules allowing for open participation among actors at sub-national and national levels is needed in order to ensure the successful national distribution of REDD benefits. Benefit-sharing issues are inextricably linked with legal issues relating to ownership, participation and permanence covered in other chapters, and as such must be treated in an integrated fashion by policy makers. Ultimately, clarity in national laws for benefit sharing will play a pivotal role in successfully defining and allocating benefits among sub-national actors, thus favouring the permanence of carbon emissions reductions and attracting long-term finance and investment in national REDDs.

67, as cited in Cooke, F.M. (Ed.) (2006). *State, communities and forests in contemporary Borneo*, p. 91. Asia-Pacific Environment Monograph 1. Canberra, Australia: The Australian National University E Press.