



Options for Managing Financial Flows from REDD+

Charlotte Streck, Manuel Estrada Porrua, Carina Bracer, Michael Coren*

Executive Summary

To mobilize resources for the reduction of greenhouse gas (GHG) emissions from deforestation and forest degradation, conservation of forests and the enhancement of their carbon stocks (REDD+), effective and efficient distribution of finance at the national level is essential. This paper provides a summary of options for institutional structures and operational schemes to effectively attract and manage financial flows in forested countries and presents an analysis of the issues associated with them.

Deforestation results from many factors in a context of complex social, economic, cultural and environmental factors. However, drivers generally fall into three categories (i) indirect or underlying causes (e.g. policy, economic, institutional, technological, cultural and demographic factors); (ii) direct, immediate or proximate causes (e.g. agriculture, logging, cattle ranching and infrastructure development); and (iii) social and physical predisposing conditions.

Policies to reduce deforestation rates in developing countries usually seek to make forestry more sustainable, raise the political status of forest conservation, or modify social and economic development policies. Significant reductions in deforestation and forest degradation depend on designing and implementing effective REDD+ policies within a framework of political stability and conducive of future investment. Securing international REDD+ finance can represent an important source for private and public sector investment in forestry and related sectors of developing countries. While private investment is likely to flow towards forest sector activities, public decisions around financial management of REDD+ funds play a critical role in facilitating such investments by creating an enabling and attractive investment environment.

Taking into account the fact that most REDD+ finance is likely to be performance based, the ability to attract REDD+ finance in advance of verified performance depends on the credit rating and investment climate of the respective country. Institutional strengthening as well as guarantees issued by multilateral institutions may mitigate some of the country-related risks and help countries to raise REDD+ finance in advance of performance-based REDD+ payments.



Domestically, REDD+ countries can manage or deliver funds via (i) national budgets (held centrally or decentralized); (ii) independent funds (public or private); and (iii) direct project investment (private or public). Managing REDD+ finance through separate fund models has distinct advantages: it is more difficult to redirected funds to non-intended purposes, and it offers a more stable solution in political systems undergoing leadership changes. Potential disadvantages of separate funds are complications arising from REDD+ finance if decisions about a large fraction of the country's forest land are not coordinated with general decision-making structures and land use policy. Other potential disadvantages of separate funds are inefficient allocations and high transaction costs of parallel systems.

Disbursement of REDD+ finance at the national level may rely on existing procedures and agencies to mediate between implementers of REDD+ actions and governments. At the individual or village-level, delivering REDD+ payments may require novel legal structures, resource rights or contracts. However, most countries have some form of payment distribution networks, usually tied to social welfare, environmental or development agencies or sophisticated local community governance structures that can serve this function.

Policy measures aimed at encouraging private sector investment in REDD+ should target specific outcomes related to GHG emissions in the forest sector. Policy approaches include (i) incentive schemes that seek to redirect investments towards desired actions via programs or fiscal measures; (ii) measures focused on altering the drivers of deforestation that exist outside the forest sector; and (iii) improved land planning policies. The choice for or against each policy mechanism depends on conditions within the country, the regulatory framework, government capacity, institutional strengths, credit rating, domestic budgets and financing, and policy preferences.

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Introduction

Economic models suggest emission reductions from forest carbon will help achieve cost-effective greenhouse gas (GHG) mitigation containing global temperature increases below 2°C.¹ The global forest estate, roughly 3.9 billion hectares, holds about 1 trillion tons of carbon dioxide equivalent (tCO₂e) stored in biomass and soil carbon.² This is released into the atmosphere at a rate of 3.6 to 4.5 GtCO₂e/year via deforestation, the largest source of GHG emissions in many developing countries.³ Actions to conserve and expand forests are expected to deliver about one third of the total climate change mitigation effort across all sectors. Many of these reductions from international forestry could come early: the reduction of emissions from deforestation represents 64% of total emission reduction potential by 2030, and 34% by 2100, much of it from tropical countries.⁴

To mobilize resources for global forest emission reduction and removal, a cost-efficient, effective, and equitable mechanism is needed to ensure measurable, real and sustainable climate benefits in return for reducing GHG emissions from deforestation and forest degradation, conservation of forests and the enhancement of their carbon stocks (REDD+). This objective of this paper is to provide a summary of options for institutional structures and operational schemes to effectively manage financial flows for REDD+ in forested countries and presents an analysis of the issues associated with them. Financial support for REDD+ is expected to come from national and international sources of funding as well as via traditional fiscal instruments enacted by public authorities for forest and biodiversity conservation (e.g., taxes, fees, subsidies, grants, etc.).

The paper is structured as follows: Section 1 summarizes the causes of deforestation and historical experience in addressing them. Section 2 represents the core of this paper and discusses the mobilization, management and disbursement of REDD+ funds. It describes

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¹ Sohngen, B., 2009. *An Analysis of Forestry Carbon Sequestration as a Response to Climate Change*, Copenhagen Consensus Center, October; McKinsey, 2009. *Pathway to a low-carbon economy. Version 2 of the global greenhouse gas abatement cost curve*. March 2009.

² UN Food and Agricultural Organization. 2006. *Global Forest Resources Assessment 2005: Progress towards sustainable forest management*. FAO Forestry Paper 147. United Nations Food and Agricultural Organization. Rome, Italy.

³ See Sohngen 2009 (no 1 above).

⁴ See Sohngen 2009 (no 1 above); Sohngen, B. and Mendelsohn, R., 2003. *An Optimal Control Model of Forest Carbon Sequestration*, *American Journal of Agricultural Economics*. 85(2): 448-457; Tavoni M., Sohngen B., Bosetti B., 2007. *Forestry and the Carbon Market Response to Stabilize Climate*, Nota di lavoro 15.2007, Fondazione Eni Enrico Mattei, January.



public and private sector financing and their respective roles in implementing REDD+. The paper concludes with a discussion of the role of the private sector in REDD+ funding.

1. Background

1.1. Forest protection and addressing deforestation

Drivers

Deforestation drivers operate over different spatial and temporal scales and vary in importance geographically at national and regional levels. Tropical deforestation drivers usually find their origins outside the forestry sector. In Africa, the expansion of small-scale farming and the pressure from local population (reflected by e.g., fuelwood extraction) have been identified as the two main drivers of deforestation. In the case of Latin America, deforestation is mostly the result of large size cattle ranching operations, as well as of large agricultural plantations and transport expansion. Market growth and formal policies constitute the main underlying causes of deforestation in this region. Deforestation in Asia is a combination of large scale operations (commercial logging) and the advance of the agricultural frontier by small farmers, both ensuing mainly from formal policies, unclear land tenure and corruption.⁵ Deforestation drivers generally fall into three categories:⁶

1. indirect or underlying causes (e.g. policy, economic, institutional, technological, cultural and demographic factors);
2. direct, immediate or proximate causes (e.g. agriculture, logging, cattle ranching and infrastructure development), and;
3. social and physical predisposing conditions.

Existing policies

Policies to reduce deforestation rates in developing countries seek to make forestry more sustainable, raise the political status of forest conservation, or modify social and economic development policies.⁷ A mix of policies, regulatory instruments and positive incentives with a diverse range of funding and financing instruments, is usually necessary to effectively address deforestation. Among the most common policies are positive financial incentives involving subsidies, funds, transfer payments, tax relief, permit trading and the enhancement of property rights.⁸ Regulations or coercive measures may mandate or restrict the use of natural resources, land conversion and planning, or prohibit the use, trade and sale of products derived from deforestation and degradation activities (e.g. Convention on International Trade in Endangered Species of Wild Fauna and Flora; CITES).

⁵ Geist, H. and E. Lambin, 2001. *What drives tropical deforestation? A meta-analysis of proximate and underlying causes of deforestation based on subnational case study evidence*. LUC (Land Use and Land Use Cover Change) report series No. 4, Louvain.

⁶ See Geist and Lambin 2001, *ibidem*; Kaimowitz et. al. 1998 *Public policies to reduce inappropriate deforestation*. In E. Lutz, ed. *Agriculture and the environment: perspectives on sustainable rural development*, p.303-322. Washington, DC, USA, World Bank.

⁷ Grainger, A., 1993. *Controlling Tropical Deforestation*. London: Earthscan.

⁸ United Nations Framework Convention on Climate Change Secretariat, 2006a. *Background paper for the workshop on reducing emissions from deforestation in developing countries Part II Policy approaches and positive incentives Working paper No. 1*. Workshop on reducing emissions from deforestation in developing countries 30 August - 1 September 2006, Rome, Italy.



Forest management options are by far the most popular policy interventions in developing countries, according to approaches for REDD+ submitted to the UNFCCC in developing country national communications since 2006.⁹ These, in order of importance, are:

1. Promoting afforestation, reforestation or agroforestry to develop alternative sources of wood and forest resources or to restore deforested areas;
2. Forest conservation, including the establishment of forest reserves and protected areas, often for purposes of protecting wildlife and biodiversity;
3. Promoting sustainable forest management; developing forest management plans; improved management; laws governing harvesting practices, certification of forest products; and
4. Fire prevention and control programs are also seen as an important measure by many developing countries, even though just a few of them are actually implementing them.

The proposed policies are often paired with developing country efforts allowing forest dwelling communities to manage forests or natural resources through decentralized or community-based forest management, capacity building and to a lesser extent, poverty reduction measures. The most direct measures -- legal actions to curb illegal logging, mining, prohibit land use conversions, consolidating environmental rules or imposing taxes or fees for extraction activities -- exist in just a handful of countries and generally require more complex governance and regulatory reforms. Despite progress in nations such as Brazil and Kenya, these have not been a priority for the majority of developing country governments so far. There is also a disconnect between drivers and appropriate policies: while the main drivers of deforestation often lie outside of the forestry sector, traditionally few of the measures countries proposed by countries to curb deforestation relate to sectors other than the forestry sector.

Table 1 below highlights existing and planned policies addressing deforestation drivers in the three main tropical regions.

Table 1 Sample of financial tools used to implement policies addressing drivers of deforestation

<i>Driver</i>	<i>Policy response</i>	<i>Tools and measures</i>	<i>Case studies</i>
ASIA			
Demand for oil palm demonstrated in oil palm plantation expansion	Reduction of perverse incentives driving oil palm demand	- Concession agreements - Law enforcement - Removing subsidies for establishment of plantations	Indonesia ¹⁰
LATIN AMERICA			
Demand for soy products demonstrated via soy	Increase the costs and risks of	- Reduce subsidies for agriculture - Reduce technical support to	- Brazilian 2004 Federal Action Plan

⁹ Based on the analysis of National Communications submitted to the UNFCCC until 2006 and contained in the "Background Paper For The Workshop On Reducing Emissions From Deforestation In Developing Countries - Addendum 1. Synthesis of relevant information contained in national communications" (UNFCCC. Working paper No. 1 (c) (2006), 17 August 2006).

¹⁰ IFCA, 2008. *Reducing Emissions from Deforestation and Forest Degradation in Indonesia. REDD Methodology and Strategies. Summary for Policy Makers.*



bean expansion	deforestation	agriculture - Incentives for sustainable recovery of deforested land	for Protection and Control of Deforestation
	Reduce prices and demand for agricultural products	- Control on prices of goods - Export bans - Certification standards - Devaluation of currency - Taxes	- Brazilian 2008 government "Moratorium on Soy Beans"
	Increase agricultural productivity	Raise funds to enable increasing subsidies and support programs; providing extension services	
AFRICA			
Charcoal production and energy wood collection	Lessen demand for charcoal and create alternative, or more efficient, energy sources	-Raise funds to enable subsidizing sustainable alternative energy sources - Support to community woodlots - Provide technical expertise to make carbonification more efficient	-Community forest cooperatives - Cook stove Programs
GENERAL			
Lack of enforcement of forestry and environmental legislation	Legislation to improve licensing procedures and monitoring of concessions	-Require proof of compliance with environmental regulations to access official credit -Require state and federal environmental agencies to embargo illegally deforested landholdings -Prohibits the sale or purchase of goods produced in embargo lands	Brazilian National Monetary Council of Central Bank ¹¹
	International agreements to reduce illegal wood products	- Trade agreements linked to commitment to track and monitor wood origins and sources	- EU FLEGT initiative in many countries - USA Lacey Act
Unsustainable forest management	Increase profitability of Sustainable Forest Management practices	- Forest management plan requirements - Laws governing harvest practices - Promotion of certification - Donor platform to coordinate support	-Kenya's Forest Act 2007 -NREG in Ghana: Natural Resources and Environmental Governance
Road construction	Rationalize infrastructure with other priorities	Regulations requiring environmental impact assessments including GHG impacts; requirements of offsetting impacts	Mesoamerica
Pulp and paper production	Internalize environmental and other costs of production	Requirements of offsetting impacts	

1.2. Lessons from implementing deforestation policies

¹¹ Verissimo, A., 2006. *Estratégia e Mecanismos* Financeiros para Florestas Nativas do Brasil. FAO.



Experience with policy approaches and positive incentives to reduce deforestation and forest degradation offers mixed results (see Table 2). Certain countries such as India have stabilized forest area even with intense pressure on forests for fuelwood or industrial extraction. This outcome has been repeated in a handful of countries through robust national policies, ambitious reforestation programs, consistent enforcement and the involvement of local communities in protection and management of forests. For example, Thailand reported a decrease in annual deforestation from 450,000ha per year to 141,107 ha following a logging ban and implementation of programs for afforestation/ reforestation and forest protection, while Senegal imposed higher tax and license fees lowering fuelwood consumption and deforestation as a result.¹²

A critical element in these policies' success in reducing deforestation was adequate funding coupled with effective instruments to distribute payments for goods and services. While every country has some type of financing system, these vary widely in their sophistication, scope and procedures. This underlines the importance of considering specific features of each country, including its history and experience in forest financing, when proposing incentives and policy responses for REDD+. Measures for developing countries with strong institutions are often unsuitable for those with less favorable political and economic conditions. As demonstrated by the continuous loss of tropical forests, the examples of successfully controlling deforestation are still the exception rather than the rule. In the past, limitations on the effectiveness of forest conservation or management policies have included financial constraints on the ability to purchase land or to compensate land owners for conservation activities; unclear land ownership and land tenure arrangements; the failure to enforce existing laws preventing land degradation or deforestation; and leakage effects as a result of placing areas under protection.¹³

Ultimately, the success of REDD+ will depend on a reliable legal, political and institutional environment with transparency, stability and long-term security – or what is referred to as an “enabling environment”.¹⁴ The political, legal and institutional environments of the forest sector in many developing countries are often defective and unstable. This complicates effective governance and worsens prospects for private sector investment particularly, but also for successful community management of natural resources, and public policy implementation for REDD+.

Table 2 describes several key drivers of deforestation, and general policy responses countering deforestation in developing countries. Most show moderate or qualified effectiveness that was highly dependent on both implementation and the larger political or economic context. Macroeconomic policies (demand management for tropical goods, currency devaluation, trade controls), rationalized resource management (removing subsidies for colonization, large infrastructure) and legal reforms (land tenure and titling reforms) all showed promising, though somewhat ambiguous results in the research literature.

¹² United Nations Framework Convention on Climate Change Secretariat, 2006b. *Background paper for the workshop on reducing emissions from deforestation in developing countries Addendum 1 Synthesis of relevant information contained in national communications. Working paper No. 1.* Workshop on reducing emissions from deforestation in developing countries 30 August - 1 September 2006, Rome, Italy.

¹³ See UNFCCC, 2006b (no 12 above).

¹⁴ Van Dijk, Kees, and Savenije, Herman, 2008. *Hacia estrategias nacionales de financiamiento para el manejo forestal sostenible en América Latina. Síntesis del Estado actual y experiencias de algunos países*, FAO Forestry Policy and Institutions Working Paper No. 21.



Table 2 Experience with policy options to address deforestation drivers and their effectiveness in developing countries

Drivers	Policy response	Effectiveness
High prices and demand for agricultural products	Policies for economic growth	Moderate ¹⁵
	Policies to devalue currency	Moderate
	Policies that control the price of tropical goods	Ambiguous ¹⁶ , moderate
	Policies that set export bans and taxes	Moderate in the short run
Measures that promote agriculture, logging or infrastructure development	Policies that reduce subsidies for certain agricultural inputs	Moderate in the medium term. However, effectiveness is questionable ¹⁷
	Policies to reduce technical support for agricultural activities that deforest	Low
	Incorporating deforestation concerns into road and transport policies	Moderate in the medium term, while, the longer term is determined by underlying causes of deforestation
	Establishing protected areas	Variable
	Policies to reduce support for colonization	Generally moderate
Uncertain land tenure	Changes in land titling	Low, or even negative, resulting from weak implementation
	Policies to establish common property regimes	Moderate
	Taxes	Variable/unknown
Relative economic profitability of forest conversion	Policies to promote the marketing of forest products	Variable/moderate
	Enhanced security of tenure	High, however, depends on political changes, length of concessions and transferability of licenses
	Payment for environmental services	Variable
	Integrated Conservation-Development Projects (ICDPs)	Low ¹⁸

Source: Adapted from United Nations Framework Convention on Climate Change Secretariat. Background paper for the workshop on reducing emissions from deforestation in developing countries Part II Policy approaches and positive incentives Working paper No. 1 and Addendum 1 Synthesis of relevant information contained in national

¹⁵ Kaimowitz et al. 1998 *Public policies to reduce inappropriate deforestation*. In E. Lutz, ed. Agriculture and the environment: perspectives on sustainable rural development, p.303-322. Washington, DC, USA, World Bank. Where no other references are given, experiences summarized in this table can be found in Kaimowitz et al. 1998.

¹⁶ Von Amsberg, J., 1998. *Economic patterns of deforestation*. The World Bank Economic Review 12(1):133-153.

¹⁷ See examples from Brazil cited by Lele, U. et al, 2000. *The World Bank's Forest Strategy. Striking the right balance*. The World Bank. Washington, D.C and Faminow, M.D., 1998. *Cattle, Deforestation and Development in the Amazon: An Economic, Agronomic and Environmental Perspective*. Department of Agricultural Economics and Farm Management, University of Manitoba, Canada.

¹⁸ Chomitz, K.M., P. Buys, G. DeLuca, T.S. Thomas, and S. Wertz-Kanounnikoff, 2006. *At Loggerheads? Agricultural expansion, poverty reduction, and the environment in the tropics*. The World Bank, Washington, D.C.



communications. Working paper No. 1. Workshop on reducing emissions from deforestation in developing countries 30 August - 1 September 2006, Rome, Italy.

Many of the measures described in Table 2 were not explicitly dedicated to combat deforestation and forest protection. Their effectiveness was studied in countries where comprehensive forest conservation goals were limited or non-existent. REDD+ policies would need to be implemented as part of a broader, integrated approach to land management, while specially targeting country-specific deforestation drivers, and adapted or designed in line with REDD+ requirements such as carbon accounting, monitoring and verification, setting reference levels and social or environmental protections.

2. Accessing REDD+ finance

Significant reductions in deforestation and forest degradation depend on designing and implementing effective REDD+ policies within a framework for political stability and future investment. This is a costly endeavor for many developing countries. REDD+ readiness in eligible nations, either prior or in parallel with implementation, is expected to cost millions of dollars with individual tasks including formulation of national REDD strategies (USD200,000 to USD1 million) and judicial reform (USD500,000 to USD5,000,000) broken down by Hoare et al.¹⁹ In reality, it is difficult if not impossible to attach accurate costs to these types of readiness activities, although it is reasonable to assume that they will require large public expenditures over years (or decades), as well as a sustained political commitment from developed and developing countries to carry out the necessary reforms and investment. The actual cost of reducing emission (as opposed to readiness measures) is estimated at USD17 billion to USD28 billion per year in order to halve global deforestation according to opportunity cost estimates in major forest nations.²⁰ The administration of REDD+ schemes in developing country will depend on well designed policies and effective financial and implementation management structures.

2.1. Investments in the forestry sector

The main investment sources in the forestry sector are private (93%) representing about 1.5% of global direct investment (valued at USD63 billion in 2004). The vast majority is from domestic sources (>90%) rather than foreign investment.²¹ The majority of foreign direct investment (FDI) flows into developed countries' forest industries as opposed to developing countries (0.4%), further widening the financing gap between developed and developing countries.²² Investments are largely associated with plantations for pulp, paper, and biofuel as investors seek out faster returns, emerging markets, improved productivity, and liberalized trade regimes. However, public sector subsidies continue to play an extremely large role, contributing as much as 75% of establishment costs, in the plantation sector. However, particularly in developing countries, financing is primarily domestic and heavily reliant on internal cash flow as lending and equity capital is difficult to access.

¹⁹ Hoare et al., 2008. *Estimating the cost of building capacity in rainforest nations to allow them to participate in a global REDD mechanism*, Chatham House, ProForest, Overseas Development Institute (ODI), EcoSecurities.

²⁰ As in Pagiola, S., Bosquet, B., 2009. *Estimating the Costs of REDD at the Country Level*. Forest Carbon Partnership Facility, Version 1.0 – 24 February 2009 who cite that Bolivia, Brazil, Cameroon, the Democratic Republic of Congo, Ghana, Indonesia, Malaysia and Papua New Guinea represent 70% of global emissions from deforestation.

²¹ UNCTAD 2005 as cited in Tomaselli, I., 2006. *Creating a New Business Model for Forests Investments*.

²² Ibid.



The main actors, and their investment capacities, are outlined in Table 3 below. The table highlights the increasingly central role of the private sector in the forest sector supply chain as wood is processed into commodities and manufactured goods for international trade. Players are smaller and more distributed, relying heavily on state assets in many cases, for forestry management and timber production. As the forestry sector moves from raw materials to finished products, investors are increasingly consolidated, favoring large multinational or institutional investors concerned with market power (owning large swaths of a particular sector to exert control over supply and price) than returns on particular investments.²³ This mirrors a shift from domestic to international financing implying that tropical forest and timber industry investments remain predominately domestic at the base of the forestry supply chain.

Table 3: Forest sector and trade: Main actors and investors²⁴

<i>Sector</i>	<i>Dominant players</i>	<i>Investment</i>	
		<i>Capacity</i>	<i>Priority</i>
Primary (natural resources)	Governments	Variable	Environment/social
	Communities	Low	Territory/maintenance
	Private sector	Low/medium	Production/revenue
Secondary (processing)	Domestic private sector	Low/Medium	Productivity/revenue
Tertiary (trade)	International companies	High	Market power

2.2. Attracting REDD+ funds

Decisions for attracting and managing REDD+ finance can generate important channels for private and public sector investment in the forestry sector of developing countries. While private investment is likely to flow more towards forest sector activities, public funds can facilitate such investments by creating an enabling investment environment. Public funds are also likely to be needed to redirect funds in non-forestry sectors to more intensive agriculture or alternative energy sources which double as REDD+ goals. Public funds are also essential to support preparatory activities and institutional strengthening.

There is a growing international recognition that REDD implementation will progress through different (but not necessarily formalized) phases, including: national REDD strategy development and capacity building (Phase 1), implementation of national REDD policies and measures (Phase 2), and full-scale implementation (Phase 3).²⁵ It is likely that the different

²³ See Tomaselli 2006, *ibidem*.

²⁴ *ibidem*.

²⁵ REDD+ negotiators agreed in Copenhagen, among others, on a phased approach and forwarded the negotiation text that still contained brackets to the COP (FCCC/AWGLCA/2009/L.7/Add.6). It was not adopted but will provide the basis for further considerations in 2010. For more backgrounds, see: A. Angelsen, S. Brown, C. Loisel, L. Peskett, C. Streck, and D. Zarin (2009), Reducing Emissions from Deforestation and Forest Degradation (REDD): An Options Assessment Report, Meridian Institute. Available at: <http://www.REDD-OAR.org>.



phases will have to be supported by different international funding sources and financing instruments to meet the needs of developing countries and provide some flexibility for how developed countries can support REDD actions. Such funding sources include bilateral support, funding through international funds, and market-based approaches.²⁶

Implementation of Phase 1 or REDD+ readiness has already started. The World Bank's Forest Carbon Partnership Facility and UN-REDD are supporting more than 40 countries with REDD+ readiness programs that include strategy development and the building of management and MRV systems, as well as demonstration activities. At the 15th session of the conference of the parties to the UNFCCC, developed countries have pledged a USD3.5 billion package of fast-track financing for REDD+,²⁷ although it is not yet clear how these funds, if they materialize, will be distributed and managed. Most developing countries will rely heavily on such international finance to design and implement REDD+²⁸ activities as they move from readiness actions to performance-based REDD+ incentives.

Modest private sector investment is flowing already to existing and potential projects, although this is jeopardized by the failure to agree on a strong REDD+ framework in Copenhagen and the chances for strong US climate legislation diminishing, and depends primarily on policy decisions giving clear signals to the private sector as well as measures to attract private investments.

Generally, international public money is likely to support readiness activities, while private investors are inclined to finance implementation of activities generating emission reductions, presumably leading to financial returns. It is expected that private actors assume a larger role in REDD+ financing as initial reforms and institutional strengthening show effect and REDD+ programs are being scaled up (see Table 4 for the evolving roles of actors). International REDD+ finance will help supporting governance reforms and public policy on one hand, private sector incentive and payment for ecosystem services (PES) schemes on the other. However, the overall goal of a long-term REDD+ policy is to establish a new land-use paradigm of sustainable use of resources and forest protection which will gradually become self-sustained and independent of external financing.

²⁶ See C. Streck, L. Gomez-Echeverri, P. Gutman, C. Loisel, and J. Werksman (2009); *REDD+ Institutional Options Assessment. Developing an Efficient, Effective, and Equitable Institutional Framework for REDD+ under the UNFCCC*. Meridian Institute. Prepared Available at: <http://www.REDD-OAR.org> (accessed 1 April 2010).

²⁷ Pledges made in December 2009 in Copenhagen by six countries (the US, Australia, Britain, France, Japan, and Norway) amount to USD3.5 billion package in the years 2010-2012 to fund immediate steps to develop REDD+. It is not clear whether this funding is in addition to existing pledges or inclusive of them.

²⁸ Reductions that are monitored, measured, verified and reported according to internationally accepted or specifically defined standards.



Table 4 Finance in a phased approach towards REDD+

<i>Roles</i>	<i>Phase 1</i> REDD+ readiness	<i>Phase 2</i> Initial implementation	<i>Phase 3</i> Scaling up
Public Sector			
REDD+ country national governments	Definition of REDD+ strategy; establishment of REDD+ implementation, including MRV procedures, reporting and oversight systems.	Implementation of REDD+ strategy. Adoption of policies and laws; policy reforms (land tenure review and reform); institutional strengthening (enforcement and implementation capacities, coordination).	Full scale implementation, including market and non-market systems (PES, incentive payments, removal of perverse incentives).
International organizations and industrialized countries	Support of REDD+ readiness and demonstration activities. Capacity building and knowledge transfer. Attraction of new investment for early action via public sector risk mitigation measures, and creation of financial tools.	Support for performance based action (based on proxies or other policy indicators). Continued support for capacity building, institutional strengthening and the maintenance of MRV systems.	International financial support for MRV-grade emission reductions measured against an agreed reference level. Transfer of offsets and/or controlled connection to compliance markets possible.
Private Sector			
National private sector	Participation in consultations and the development of the REDD+ strategy. Service providers in the establishment of MRV systems.	Consultation (and lobbying) in the context of policy adoption and law-making. Participation in MRV and the implementation of relevant policies.	Participation in REDD+ implementation, activity shifts, receiving compensation for loss and granting of benefits. Investment in REDD+ programs and policies if there are appropriate incentives (in cash or credits). Development of REDD+ projects and programs, if authorized.
International private sector	Service providers. Facilitation of REDD+ readiness.	Service providers. Transfer of technology and knowledge.	Investment in REDD+ programs and policies if there are appropriate incentives (in cash or credits). Development of REDD+ projects and programs, if authorized.

In order to kick-start REDD+ programs, countries need to raise upfront funds for REDD+ implementation. Until political and technical uncertainty is reduced, along with potential for high risk-adjusted returns, the pool of private capital for REDD+ investments is very limited. This has placed the onus for initial payments for emission reductions on developed countries. Developed nations have also shown little appetite for making upfront payments for REDD+ before countries have established satisfactory strategies, management and MRV



system. The performance-based nature of REDD+ is creating further incentives to improve management capacities and both transparency and environmental integrity of actions in developing countries.

Investing in the creation of enabling environments through the establishment of a viable context for REDD+ activity requires substantial time and finance. Timing may not be synchronized: the finance for such policies are available before the policies themselves are designed and agreed upon, while in many countries, the policies are ready to be enacted, while the finance for it is still unavailable. The viable context for REDD+ management and implementation includes factors such as: i) effective institutions, ii) adequately funded and politically supported laws and policies, iii) a well defined land tenure system, iv) the elimination of illegality and corruption, and v) the promotion of transparency and accountability.

The national circumstances of REDD+ countries further limits or expands their ability to attract REDD+ investment. Credit-worthy countries such as Brazil with friendly business environments may more easily tap international credit markets, negotiate terms of donor funding, and administer international REDD+ financing. Brazil has been able to secure discretionary funds from the Government of Norway through the Amazon Fund, while the Congo region predominantly is likely to predominately receive funding via international trust funds administered by multilateral organizations. Brazil's demonstrated capacities (including but not limited to financial management and its recent advances in reducing deforestation) enabled it to negotiate performance-based funding for the Amazon Fund reflecting Brazil's political preference for non-market mechanisms. Countries with poor governance indicators are more likely to receive funds through intermediaries such as the World Bank or the African Development Bank.

Multilateral institutions, such as the World Bank, can assist countries in mobilizing private and public advance payments for REDD+ by issuing partial risk guarantees that cover sovereign host country risks. World Bank guarantees are very effective in mitigating government performance risks. They can also help to attract other political risk coverage providers also minimize the Bank's guaranteed amount. Other political risk providers could co-finance the transaction on a *pari passu* basis, or the Bank guarantee could provide first loss coverage which triggers the co-financier's coverage after the Bank guarantee has been drawn²⁹.

2.3. Management of REDD+ funds

Domestically, REDD+ countries can manage or deliver funds via i) national budgets (held centrally or decentralized), ii) independent funds (public or private) and iii) direct project investment (private or public). More commonly, a mixture of these channels will be used. Each of these fiscal management options applies its own rules and practices for final disbursement to recipients and actors who carry out the REDD+ activities. Furthermore, each presents particular advantages and disadvantages from the perspective of private sector flows to REDD+ actions or public sector, centrally managed REDD+ activities.

Existing and newly established institutions are already being used in REDD+ readiness and will play a part of the REDD+ implementation and management going forward. Such

²⁹ It is not possible in this paper to develop further the diverse risk insurance mechanisms and experiences using them in politically sensitive situations.



institutions aim at fostering coordination and may include: e-government platforms for information flow; registries and accounting mechanisms managed by public and private entities, who in turn link to international actors; new interactive fora where public, private and local actors together learn from and shape the use of new REDD+ instruments will ensure application of best practices and scaling up of activities. Finally, inter-sectoral, inter-ministerial decision making bodies will also be involved in REDD+ policy implementation, operationalization, monitoring and verification of national and sub-national REDD+ activities.

Budgetary finance

If designed as targeted budget program a REDD+ program would be fully integrated into the REDD+ country's public expenditure system. The funds would be consolidated into the state budget where they would be subject to internal and external control procedures valid for all budgetary entities. The REDD+ expenditure lines would thus be budgetary programs under the national budget laws. As such they are more likely to fall in line with overall national emission reductions planning and priorities at the country level. International REDD+ funds could be held in special or reserve accounts by ministries of finance or treasuries, which then annually allocate resources to the designated REDD+ management entities to carry out the planned activities.

However it will be difficult to fully protect international REDD+ revenues within the one-year budget perspective of many countries. The annual REDD+ allocations could be based on a multi-year, rolling business plan, subject to verification of previous year's achievements and results for enhancing accountability. The Mexican Forest Fund that was initially set up to administer the multi-year PES payments is an interesting case study for a fund that allows the administration of funds dedicated to forest activities in the context of annual budget cycles.

Independent public/private funds

REDD+ countries could also channel international REDD+ funding through existing or new public or private funds. National funds may be established within the State administration – for instance, in a ministry, or an agency under the ministry. While this type of fund can use current capacities of the state administration, it could create competence conflicts between the fund and the sector administrations. There is also a risk of the system being co-opted. Using the instrument of a fund with an independent board is a way to guard against corruption problems, particularly where state administrations are weak. The Brazilian Amazon Fund³⁰ is an example of a publicly administered REDD+ fund in which the allocation of resources is handled by an independent board with members from state and public administrations and may also include members of civil society. The board can allocate money to specific programs, sector administrations or individual projects.

Funds outside state administration, such as Conservation Trust Funds (CTFs), are usually independent foundations managed by mixed board membership representing both private and public sectors (example in Textbox 2). These funds may be assigned different tasks, or carry out specific policy goals such as managing a specific conservation area or managing a national payment for ecosystem services systems. CTFs are commonly used as a mechanism for creditor and debtor governments to channel funds generated by debt-for-nature swaps.

³⁰ <http://www.amazonfund.gov.br/>



Countries such as Peru, Ecuador, Bolivia and Madagascar have used CTFs to channel significant resources from bilateral debt-for-nature swaps into long-term financing for their national protected area systems.³¹

Environmental funds have also been established typically in conjunction with large, one-off contributions from donor agencies or NGOs. These funds may be supplemented or replenished by private sector contributions, fiscal revenues and earnings from market-based charges for protected areas goods and services and often attract other donors once established. Three types of trust funds are common: i) endowment funds spend only income while attempting to maintain or enhance capital, ii) sinking funds liquidate all of their assets over a specified period of time; while iii) revolving funds are designed to receive regular replenishments, often from various sources. Of these, only the first is truly a long-term or revenue-generating financial mechanism.³²

Textbox 1 Trust Funds: PROFONAPE in Peru

The Peruvian Trust Fund for National Parks and Protected Areas – PROFONANPE – was created in 1992 as a private non-profit organization to promote long term financing of the natural protected areas of Peru. It is governed by its own by-laws and enjoys independence to act and enter into contracts. It is guided by an eight-member Board of Directors that includes representatives of the public sector (four), non-governmental organizations (two), private business (one) and international cooperation/donor (one). The institution has supported biodiversity conservation in Peru by leveraging resources effectively. The Fund began with seed capital of USD5.2 million in 1995 and had USD95.9 million in its portfolios in 2007, an 18-fold increase. One of the organization's current challenges is to identify the impact of its work through an adequate system of monitoring and evaluation.

Separate fund models have distinct advantages: resources cannot be redirected to non-targeted purposes, and these models offer a more stable solution in political systems undergoing leadership changes. Potential disadvantages of separate funds include complications arising from REDD+ finance if decisions about a large fraction of the country's forest land are not coordinated with the country's general decision-making structures and land use policy. Other disadvantages are potentially inefficient allocations and high transaction costs of parallel systems. Nevertheless, if corruption or governance are serious problems, allocating a high share of REDD+ resources outside government structures might be the only credible solution.

A comparison of funds that are independent from public administration with those tied directly to public management, highlights the pros and cons regarding the efficiency in use and management of REDD+ funds. But case evidence varies in terms of success of either model. Challenges are often larger for implementing the Fund goals when these are established and managed from within public administration, thus raising concerns for potential contributors and investors. Nonetheless, private administrators of Funds can also lack capacities in terms of integrating decision making into legitimate governance structures, or less interest in aligning to national priorities.

³¹ Conservation Finance Alliance (CFA). 2008. *Rapid Review of Conservation Trust Funds*. Prepared for the CFA Working Group on Environmental Funds by Barry Spergel and Philippe Taieb.

³² Emerton, L., Bishop, J., Thomas, L., 2006. *Sustainable Financing of Protected Areas: A global review of challenges and options*, Best Practice Protected Area Guidelines Series No. 13, IUCN.



Direct investment (private and public)

Governments or private entities could raise funds by selling existing or future REDD+ credits to national or international buyers, as currently happens in the Clean Development Mechanism (CDM) and the voluntary carbon market. Direct payment arrangements could then be made between the purchaser of REDD+ credits and the public or private sponsor of the REDD+ policy, program or action. Where governments authorize private entities to directly participate in the sale of REDD+ credits, funding is likely to be distributed through aggregators and intermediaries that administer REDD+ programs and programs rather than paid to individuals directly.

While private sector actors have shown interest in purchasing REDD+ credits, they are generally not willing to take performance or project risk and invest directly in REDD+ activities. Political, operational and legal risks associated with such activities are still considered too high to allow the raising of finance against a future stream of proceeds from the sale of REDD+ credits. Possibilities to attract private sector finance into REDD+ are discussed in Section 5 below.

2.4. Disbursement of REDD+ funds

A REDD+ payment distribution mechanism should “*support policies and measures that reduce deforestation and degradation through transfer of revenues from international REDD funds or carbon markets to (or within) national levels to the responsible management agents*”.³³ The mechanisms must be effective in targeting agents and drivers of deforestation and degradation, rewarding performance and incentivizing additional action.

Mechanisms will be specific to the country, policy action and financing choices. The most common channels used by developed countries to provide subsidies for the forest (and other sectors) include grants, conditional loans and performance-based payments. Grants or loans are most suitable for capacity building and technology transfer since no financial return is expected. Concessional (low interest) and market rate loans are more commonly granted to middle-income or advanced developing countries.³⁴ Performance-based payments for either i) measured reductions in deforestation and degradation or ii) specific actions (i.e. policies) – the funding strategy ultimately envisioned in REDD+ countries – will only be suitable for those with sufficient capacity to carry out the conditions and measures required, as well as administer and distribute the funds. For most tropical forest nations, this will be a transitional process preceded by a readiness stage and international assistance.

At the national level, no single financial mechanism can be used to implement the range of REDD+ policies. The instruments to deliver funds and incentives vary from highly regulated subsidies, trade controls or currency regulation to relatively standard insurance offerings from the private sector. A partial list of these instruments includes:

³³ IFCA, 2008. *Reducing Emissions from Deforestation and Forest Degradation in Indonesia. REDD Methodology and Strategies. Summary for Policy Makers.*

³⁴ Brazil, India South Africa and China



- Taxes or tax relief
- Subsidies or grants
- Price controls
- Currency devaluation
- Export bans
- Commercial or financial insurance
- Levies
- Equity guarantees by government
- Low interest loan support
- Transfer payments
- Direct payment schemes
- Debt-for-nature swaps
- Establishment of funds
- Credit auctioning
- Cap and trade allocations
- Concessions arrangements

Modifying agricultural subsidies or regulating timber products may rely on existing procedures and agencies to mediate between firms and governments. At the individual or village-level, delivering REDD+ payments may require novel legal structures, resource rights or contracts. However, most countries have some form of payment distribution networks, usually tied to social welfare, environmental or development agencies, which can serve this function. Community Forest Enterprises globally offer rich experience with economic transactions and management in this Sector. For example, the Kenya Wildlife Service has a revenue-sharing policy, operating in 33 districts of the country, based on a Wildlife Development Fund which allocates 25% of Protected Area gate fees to community related activities in protected areas' buffer zones, including water management, education, health, livestock and enterprise development, as well as the provision of famine relief. In some cases, block payments to intermediary agencies, such as state or provincial governments, are also possible.

The pathways for REDD+ payment are not mutually exclusive and could be used in parallel to incentivize action at the national, subnational, firm and individual level while minimizing transaction costs and intermediaries. Local level disbursement needs to be tailored to local priorities and practice, while keeping certain commonly cited safeguards and standards in mind.³⁵

Similarly, case experience shows that multiple and varied revenue streams for local activities are often necessary both on behalf of the project proponent, in order to fully cover their costs. The investor, who wishes to ensure financial sustainability of the endeavor, also favors projects where they are not the only financier. Various programs with public funding focusing on non-carbon ecosystem services are fully operational in various countries (See Textbox 2), and policies and programs for additional forest sector revenue streams also need to be consolidated by public sector REDD+ institutions.

Textbox 2 Case study: Mexico's Payments for Hydrological Services

Mexico established a countrywide program of Payments for Hydrological Services (PSAH) in 2003 for forest cover conservation in areas with hydrological resources. The PSAH program began with 6 million ha of eligible land in 2003. By 2005, the program included already 477,756ha, covering most states. Primary forest owners receive USD300 pesos/ha/yr (about USD27.)³⁶ About 96% of the total budget is allocated to direct payments to participants. Funds are channeled through the Mexican Forest Fund, an entity to finance forest conservation and restoration.

³⁵ Such as the CCB National Standards, World Bank FCPF Safeguards, WRI Governance indicators.

³⁶ International Institute for Environment and Development (IIED), 2007. *Watershed Markets, Case Study: Mexico- National PSAH Program.*



Transaction costs are estimated at USD 1 million per year.

In the first two years of PSAH, little reduction of deforestation is apparent. Most of the land (64%) enrolled is under low or very low deforestation risk, and 90% corresponds to relatively underexploited aquifers. The main policy lessons valuable for REDD+ implementation are:

- *Political influences: PSAH was less targeted to environmental and social goals than originally envisioned due to political negotiations and lack of technical information.*
- *Pay-for-performance: A system based on production of verifiable services would impose more appropriate incentives for conservation and a long-term commitment.*
- *Choice of intermediary: PSAH selected a commercially oriented body to manage the program. The involvement of several actors in the design and implementation of national REDD+ strategies would offer a more balanced approach.*

2.5. Attracting private sector finance

One of the main challenges that countries face in reducing deforestation and implementing conservation practices is attracting private investment. As mentioned previously, robust implementation of national readiness, REDD+ systems, information management and operation helps to reduce risks to these actors and ensure national permanence. Current initiatives are mostly focused on establishing readiness plans and the institutional setting required by REDD+ infrastructure. Institutional public financial support will not be enough to fund the concrete implementation of REDD+ projects and activities. The larger pool of private capital is needed to fund mitigation on a global scale, although country by country analysis is just beginning to identify specific needs and niche where the private sector is desired. As described in detail previously, private capital seeks i) legal and institutional environments that offer investment security and stability in REDD+ countries, and ii) policies, legal structures and financial mechanisms that attract REDD+ investments.

The for-profit segment of the private sector is expected to be interested in participating in REDD+ for the following reasons:

1. *Profit:* Investments in REDD+ could provide profit through the carbon compliance markets.
2. *Risk management:* Some investors – such as hedge funds – might be looking for profit across a diversified portfolio. Investment in REDD+ projects may represent an opportunity to diversify their portfolio.
3. *Compliance:* Some companies may seek to invest into the generation or acquisition of REDD+ credits to meet their own carbon compliance obligations, or those that they anticipate for the future.
4. *Corporate Social Responsibility (CSR):* Some companies may be interested in investing in activities for an environmental, social or charitable purpose. REDD+ could form part of a portfolio of such activities.
5. *Broader sustainability:* Some companies may have a significant stake in the sustainability of a particular geographical region making investment in the stability



of that region, both environmentally and politically, a prudent approach for maintaining a healthy business environment.

Sound forest governance and predictable REDD+ policy will attract foreign and national investment, support carbon finance and diminish transaction costs. The main obstacle for REDD+ investors at the country level is the lack of REDD+ laws, policies and governance that help reduce investment risk and strong forestry institutions. In the context of attracting private sector investment to REDD+, several key measures would include:

- Transparent and efficient procedures for gaining government approval of REDD+ initiatives, projects and activities.
- Clarity on ownership, acquisition and transfer of forest carbon asset rights, including the potential to seek leases, concessions, or other recognized interests or securities in land or forest that are consistent with REDD+ project life periods.
- Investment laws or guarantees granting assurance that REDD+ credits or investments will not be subject to expropriation by host countries.³⁷
- Decisions on government levies or taxes on REDD+ credits or profits, or any *de minimus* national requirements on benefit sharing.
- Alternative dispute-prevention and resolution mechanisms applicable to REDD+.³⁸

Financial mechanisms to incentivize the REDD+ private sector

Policy measures aimed at encouraging private sector investment in REDD+ should target specific outcomes related to GHG emissions in the forest sector. Policy approaches include (i) incentive schemes that seek to redirect investments to desired actions via programs or fiscal measures; (ii) measures focused on altering the drivers of deforestation that exist outside the forest sector; and (iii) improved land planning policies. The choice for or against each policy mechanism depends on conditions within the country, the regulatory framework, government capacity, institutional strengths, credit rating, domestic budgets and financing, and policy preferences.

Table 5 Policy Category: Carbon Trading

<i>Policy Mechanism</i>	<i>Intervention</i>	<i>Expected impact to level of private sector involvement</i>
Allowance based carbon credit trading	Pass on international carbon credits to private entities	Interest of private sector depends on the design of the rules of the sectoral scheme; High level of interest given direct ownership
Fiscal incentives	Commercial insurance designed to reduce investment risk	Reduction of risk for borrowers and investors can increase private sector involvement

Table 6 Policy Category: Incentive Schemes

<i>Policy Mechanism</i>	<i>Intervention</i>	<i>Expected impact to level of private sector involvement</i>
Fiscal incentives	Tax breaks or subsidies	Incentivize private sector involvement in subsidized activities

³⁷ It is important to consider that most bilateral investment agreements exclude or put limits to the protection of foreign investments on natural resources projects, which could represent an obstacle for REDD+.

³⁸ Costenbader, J., 2009. *Legal Frameworks for REDD: Design and Implementation at the National Level*. IUCN, Gland, Switzerland.



	Support to project developers via low interest loans or backing, such as loan guarantees	More private sector interest where more advanced project activities exist (loans help cover start up costs) Increased competition amongst carbon suppliers encourages private sector involvement Reduction of risk for borrowers and investors
Correction of market externalities related to carbon	Establish payment for ecosystem services schemes	Increased private sector investors into PES programs that in turn offer operational support to suppliers of ecosystem services Private sector actors participate as recipients of PES payments
	Funds promoting forest protection and sustainable forest management	Increased private sector contributions into better managed, lower risk funds Funds designed to deliver clear rewards to private sector (CER's, tradable commodity) attract more private sector investment.

Table 7 Policy Category: Measures to counter non-forest drivers

<i>Policy Mechanism</i>	<i>Intervention</i>	<i>Expected impact to level of private sector involvement</i>
Agricultural policies	Bundle subsidies for agricultural intensification with forest protection	Private sector investment in agricultural production will increase and channel money into forest protection.

3. Conclusion

As countries enact REDD+ activities and measures, various sources of REDD+ finance will need to be managed, attracted and monitored. REDD+ finance will most likely rely on a mix of public and private funding sources, many who are already global participants in REDD+ markets. The mix will depend on the national circumstances, in particular on the country's ability to attract private finance, as well as on political priorities and the rules and framework wherein foreign and national direct investment in REDD+ take place. Table 8 summarizes the roles of national institutions in managing and disbursing REDD+ funds.

Table 8: National institutions and the management and disbursement of REDD+ finance

<i>Management of REDD+ finance</i>		
	Interface with international REDD+ mechanism	Roles at the national level
Management within national budgets	Communicate REDD+ strategies. Request and receive funding from international sources. Communicate with REDD+/NAMA register. Submit national REDD+ reports to high level body.	Allocate resources according to REDD+ strategy. Align finance with national REDD+ and development priorities. Disburse resources to approved REDD+ policies, programs and projects. Ensure compliance with national



	Manage relations with UNFCCC-COP funds.	and internationally agreed financial, fiduciary and reporting procedures.
Independent public or public-private management	Agree on international funding, fiduciary and reporting procedures.	Appraise financial institutions and management. Provide oversight. Allocate resources to independent manager of REDD+ funds. Agree on program and disbursement agreement criteria with the appraised financial institution or trust fund manager. Design complementary policies.
National private and FDI finance	If direct REDD+ crediting options exist, authorize private sector investments into REDD+ projects and programs; authorize the generation and transfer of REDD+ credits.	
<i>Disbursement of REDD+ finance</i>		
REDD+ readiness activities; institutional strengthening; policy reform and creation of an enabling environment (Phase 1 and Phase 2 finance)	MRV of performance. Reporting to relevant national and international bodies.	Use international readiness finance for the development REDD+ strategies and the establishment of implementation and MRV systems. Budgetary finance of policy reform. Strengthening of institutions by adding staff capacity and increasing operating budgets of enforcement agencies.
National PES and market-based finance (Phase 3 finance)	MRV of GHG emission reductions and removals. Reporting to relevant international and national bodies.	Disbursement of funds against performance of a particular activity or the quantified reduction in emissions/removals of carbon stocks.
International carbon market and FDI finance	International issuance of REDD+ credits. Communicate MRV protocols to relevant international bodies.	Disbursement of funds without government involvement. Demand for REDD+ credits facilitates transactions and financial flows into REDD+ projects and programs.

REDD+ finance that will be contributed from public sources may involve creation of new financial instruments and tools such as taxes, or tariffs as described in this paper. Thus decision making and institutional coordination for implementing broad based national REDD+ architectures in developing countries will have complex impacts for national level finance. Since drivers and incentives for actions in the forest sector derive from various sectors, efficient national REDD+ implementation will require integration across sectors, balancing multiple priorities. Strategies will often need to achieve a desired impact on international as well as national and local actors.

Situational circumstances of country's legal, political and institutional framework will be a central factor in determining who plays different roles at different stages. Coordination between private and public actors and funders of REDD+ can lead to a socially optimal solution, both nationally and globally, with respect to climate change mitigation from the forest sector is critical. How and when to transition roles from public and private finance and management is critical, as are the safeguards and mechanisms to ensure that neither



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inefficiencies, corruption or disrespect for impacted parties characterize the financial management of either public or private sector actors.