



The Potential Role of Responsible Forestry in REDD

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The reduction of emissions from deforestation and forest degradation must include multiple approaches, including protecting intact natural forest, restoring degraded forest, and improving forestry practices where logging is expected to occur.

Forestry is an important component of the economies of forest-based communities and the development strategies of many tropical nations.

Responsible forestry is one of the few ways to derive economic benefits from standing forests. We define “responsible” forestry as operations that reduce the impact of logging, set aside high conservation value forests, and ensure the conservation of ecosystem services and biodiversity while protecting the rights of local and indigenous peoples to manage and use forest lands and resources. Responsible forestry also involves independent verification by third party auditors (e.g. FSC).

If REDD excludes the possibility of nations managing forests for timber as part of their REDD programs, then far less forest area is likely to be conserved under a REDD mechanism.

Participation in REDD must be limited to responsible companies that meet strict standards.

If properly designed, REDD could tip the balance towards responsible, certified logging, thus squeezing out illegal operations. Responsible forestry should be coupled with measures to reduce the flow of illegal and irresponsibly harvested timber into consumer markets.

Among the most effective methods of curbing climate change is the protection and conservation of all standing forests by slowing and eventually halting deforestation and forest degradation from any type of land use, including logging. However, given the economic importance of forestry and the growing demand for timber and other forest products, responsible forest management could be a legitimate component of national strategies to reduce carbon emissions from deforestation and forest degradation. Widespread adoption of responsible forestry practices could reduce carbon emissions by 11% [0.16 Gt C y⁻¹] of global emissions from tropical deforestation and forest degradation¹.

Worldwide, a total area of 350 million ha, representing nearly 30% of natural tropical moist forests, is designated for logging (Table 1¹). This makes logging one of the dominant land uses, even surpassing agriculture in some areas^{3,4}. Because it occurs over such a large area, and standard practices tend to be highly destructive, logging represents at least 20% of forest emissions in many tropical forest systems^{1,3,5}. In many instances, irresponsible logging is a precursor to total deforestation. REDD provides the opportunity to reverse the historical pattern of destructive logging by providing incentives for improved forestry practices with reduced emissions.

Logging plays an important role in the economic development strategies of many forested countries⁶. Demand for timber is expected to increase from 1.6 billion m³ to 1.9 billion m³ between 2010-2015⁷; future demand for fuelwood is also projected to greatly increase timber harvest in coming decades, especially in South America and Oceania⁸. With timber plantations occupying only 3% of forested lands, demand for wood in the short-term will entail opening up frontier forests⁹ or intensifying harvest in already logged forest⁶.

The likely expansion of industrial logging in the tropics presents a significant challenge to efforts to mitigate climate change by curbing deforestation and forest degradation. The history of logging has been one of poorly organized operations and destructive harvests leaving behind a sea of residual damage and rendering forests susceptible to drought, fire and eventual deforestation^{3, 10, 11, 12, 13}. In addition to timber extraction, logging operations open roads and draw people into remote forests. Immigrants into forests deplete wildlife for animal protein and financial benefit, often weakening the authority of local people to manage and use their traditional forests^{14, 15, 16, 17}.

Responsible forestry operations that avoid these problems have been demonstrated in all major tropical regions (Box 1). A growing number of companies are committed to reduced impact logging (RIL) techniques that mitigate the deleterious effects of timber harvest. RIL is an essential component of sustainable timber harvesting prescriptions^{18, 19}, and can be both profitable and renewable – while maintaining much of the carbon stock and biodiversity^{1, 10, 13, 20, 21, 22, 23}. If RIL practices were broadly adopted by the Brazilian Amazon timber industry, for example, \$4.8 billion in annual profits and \$1.8 billion in annual tax revenues could be sustained in perpetuity²⁴.

Many tropical nations have adopted strong forest policies that require responsible forest management, but laws are often unenforced. Another approach for integrating RIL with ecologically and socially responsible practices, including fair labor contracts, biodiversity conservation, legality, transparency, and social justice, is “forest certification”. Almost 8% of all forests are certified by third parties, a significant increase since certification was introduced in 1993⁶. Companies earn certificates by upholding the standards of the certifying body, which allows them access to environmentally- and socially-conscious markets. Not all certification schemes are equal, standards vary widely: Forest Stewardship Council (FSC) certification is the current gold standard and broader application of its standards could significantly improve forest management.

Unfortunately, most certified forests occur in developed countries where up front capital costs can be met. Only about one percent of tropical forest is under responsible certified forest management²⁵. However, these cost barriers could be overcome through carbon-based incentives. Such incentives should be integrated with improved forest governance.

Why is responsible forestry an important component of REDD programs?

Logging is inevitable, responsible forest management is not. The logging industry will degrade tropical forests whatever the outcome of REDD negotiations^{3, 26}. Through carefully defined policies, however, REDD could (1) increase the proportion of responsible forestry operations and (2) serve the important role of increasing the economic competitiveness of responsible companies and improving their practices in the process. REDD could help make best practices (forest management techniques, labor relations, indirect impacts) the industry-wide standard.

Responsible companies can act as strongholds of forest frontier governance. Given capital and resources for manpower, oversight (from their shareholders, from FSC auditors, from partner organizations²⁷) and civic services (health, education, protection), companies can build governance capacity in forest frontiers where government is absent or corruption prevails. Forestry has the potential to be an economic engine in support of the conservation and responsible management of vast forest estates^{24, 27, 28}.

Responsible forestry is often less destructive than other extractive industries. Forestry results in less carbon loss to the atmosphere than plantations, pastures, and agriculture²⁹. When forestry is one of several industrial alternatives for development, it may be less destructive and conserve biodiversity more effectively than other potential activities and land uses.

What are the minimum standards for “responsible” forestry?

Responsible forestry practices must be subject to rigorous policy safeguards, including, at a minimum, the following standards:

- Adoption of reduced impact logging techniques
- Development and implementation of a nationally-approved management plan
- Compliance with national laws
- Assessment and mitigation of environmental and social impacts
- Recognition and respect of the customary rights of indigenous and local peoples to use and manage their lands, territories and resources
- Effective monitoring and assessment
- Maintenance/protection of forest with high conservation value
- Measures to ensure the conservation of the full range of biodiversity, including wildlife and other NTFPs at risk of unsustainable use
- Achievement and maintenance of standards that meet, at a minimum, the criteria defined by the Forest Certification Guide (2006) and require independent third-party validation of all procedures, practices, and operations.

Under what conditions could forestry be included in REDD?

Over the past two decades, forest managers and researchers have sought to promote sustainable management of forests. These efforts have often had the perverse effect of increasing the area of natural forest for timber production, though sustainability remains an elusive goal in many countries where the basic practices of forest management have not improved. **The challenge is to provide incentives to companies and/or nations to adopt socially and environmentally responsible methods and policies without increasing the forest area in production or impinging on the rights of local people.** Industrial logging should only be included in REDD under the following conditions.

Operations contribute to low-emission, high-livelihood rural development. Responsible forestry should be an allowable component of national-scale REDD programs that lower deforestation and forest degradation: it is, thus, incumbent upon tropical nations to determine the role responsible forestry will play in rural development while meeting nationally-determined low-emission benchmarks.

Participation limited to natural forests. The objective is to stop logging from displacing natural forest with plantation forest. Thus, participation should only involve operations implementing responsible forestry practices in natural forests.

Participation limited to “responsible” companies that meet strict standards. The goal of including forestry in REDD is to improve upon business-as-usual methods so that timber extraction is sustainable in the long-term, maintaining ecosystem services while providing financial gains for national governments and local communities. Only operations with independent third-party validation (e.g. FSC) that minimize harvest damage and take measures to ensure social justice and protect local cultures and biodiversity should be allowed to participate.

Impacts of operations on social and natural environments are monitored and verified.

Participating operations must be monitored and verified to quantify the impacts of their activities on forest cover and carbon stocks, long-term sustainability of timber harvest, biodiversity, and the cultural expression and livelihoods of rural peoples^{30, 31}. Monitoring results should determine the mitigation measures to be taken by forestry operations; REDD funds could potentially support some of the mitigation activities.

Governance conditions exist to ensure forestry practices are sustainable and can be effectively controlled. National governance conditions must be carefully assessed. Governments should demonstrate the existence of effective national policy and enforcement mechanisms to control logging practices. Where such government control is inadequate, companies or communities engaged in responsible forestry may demonstrate the capacity to create appropriate governance conditions locally (e.g. ensure sustainable logging and to protect areas from poachers and settlers).

Table 1. Total amount of natural tropical forest in production and under certification (all figures are ‘000 hectares).

Continent	Area closed natural ^a forest	Area natural production forest	Area and % certified production forest ^b
Africa	208,581	70,461	4660 (0.7%)
Asia	226,984	7,377	1302 (1.3%)
Latin America	788,008	184,727	9800 (5.3%)
Total	1,223,573	352,565	15,762 (4.5%)

^a Does not include plantations or illegal logging operations.

^b FSC certified forest in 2009 as a percent of total closed natural forest^{#1}.

What are the risks of including forestry in REDD?

The inclusion of forestry as a component of REDD comes with risks^{32, 33}. REDD could be manipulated for perverse benefits or fail for lack of capacity or will to monitor forestry operations.

Trespass in indigenous and local peoples' territories. Forestry operations may dispossess rural communities of their access and management rights to the forests and natural resources on which they depend^{33, 34, 35}.

Potential solution: Strategies like company-community contracts, that explicitly recognize community's rights, can bring improvements in household income without compromising the use and harvest of forest products by rural peoples^{36, 37}.

Crowding out other investments in REDD. If available REDD funding is limited, then forestry may attract resources away from other REDD activities. Certified logging already has a market, and REDD funds should be directed to stakeholders without access to market solutions for maintaining standing forest.

Potential solution: Forestry operations could participate in REDD only after a country enters a system of "payment for verified emissions reductions and removals" (phase 3 of the IWG on interim finance for REDD+). Once REDD capacity has been developed other stakeholders will be on more equal footing with forestry operations to participate in REDD.

Subsidize the expansion of industrial logging. REDD could be interpreted as an endorsement for selective logging over the protection of forests^{32, 33}.

Potential solution: To avoid this outcome, responsible forestry should be one component of the sustainable management of forests where logging is already expected to occur, but REDD should not promote the expansion of logging.

Ill-defined standards could corrupt sustainable management of forests. Forestry standards are often judged to be too abstract or are inadequate to ensure long-term sustainability of timber, promotion of social justice, and conservation of biodiversity^{32, 38}.

Potential solution: While not perfect, the promotion of FSC (or comparable) standards could drastically reduce degradation of tropical forests¹. Inclusion of forestry in a REDD mechanism should include strict quantitative benchmarks that companies must meet to participate.

Countries lack capacity to monitor forestry operations. Many governments currently fail to control illegal logging, thus they will be unable to monitor responsible forestry operations^{32, 33, 35, 39, 40}.

Potential solution: If properly designed, REDD could tip the balance towards responsible, certified logging, squeezing out illegal operations. Forestry operations that participate in REDD should be verified through independent third-party audits and include a third-party monitoring system.

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