

## **Why Governments Often Fail to Protect Forests:**

### **The Hidden Costs of Intervention**

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#### **Abstract**

There are hidden costs associated with all policy interventions; so-called transaction costs; and these costs help explain why past policy efforts have largely failed to reduce tropical forest loss. As the international community is preparing to launch REDD+, a global initiative to reduce greenhouse gas emissions from tropical deforestation, more attention to transactions costs would help improve the program's design. Analyzing new data on forest conservation outcomes, we find that the existing institutional design for REDD+ is flawed because it relies exclusively on host-country government interventions. We propose a more diversified policy approach that will reduce transaction costs and thereby improve the likelihood of program success.

#### **Introduction**

“The reason that some activities are not the subject of contracts is exactly the same reason why some contracts are commonly unsatisfactory – it would cost too much to put the matter right.” (1). Fifty years ago, Ronald Coase articulated the problems with the implementation of government policies to reduce social costs concluding that sometimes the transaction costs to “put the matter right” exceed the benefits. Such transaction costs help explain why past policy efforts have failed to tame the powerful forces behind tropical forest loss (2,3). We argue that more attention to transaction costs would benefit the institutional design of a new global program intended to combat tropical deforestation in developing countries, known as REDD+ (hereafter REDD for "Reducing Emissions from Deforestation and Forest Degradation and the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks in Developing Countries"). The existing institutional design for REDD relies exclusively on host-country government interventions, but to reduce transaction costs and thereby improve the likelihood of success, we propose that REDD embrace a more diversified approach.

The main objective of REDD is to provide positive economic incentives to people in developing countries to conserve forests and thereby reduce greenhouse gas emissions from one of its leading sources (4,5). REDD appears to be a win-win solution: developing countries receive payments to preserve their forests and donor countries receive carbon credits and praise for “doing something” about climate change (6,7). Though REDD seeks to address the core underlying problem of tropical forest loss—the social costs of tropical deforestation—we

are cautioning the architects of REDD to think through some of the thorny issues related to national policy implementation.

### **How to Reverse Tropical Forest Loss?**

To reverse the current trend of tropical deforestation is a daunting task, partly because we are still in the dark when it comes to making tropical forest conservation work in developing countries. Analysts and practitioners agree that there are no readily available and universal solutions to deforestation and forest degradation (8,9,10). Despite international conservation efforts, no country in the modern era has been able to reverse a trend of reductions in tropical primary forest area (11,12). A handful of countries, including China, India, and Vietnam have reported net increases of total forest cover for the 2005-2010 period, but these figures are driven by the establishment of forest plantations not by decreases in loss of primary tropical forests. In the case of Brazil, where the rate of primary forest loss decreased substantially in the 2005-2010 period (11), there is little evidence to suggest that government policies caused these outcomes. On the contrary, market-related factors, such as economic growth in urban areas (causing less migration to the frontier) and sluggish markets for agricultural commodities are the main causes, not government action (13,14). Meanwhile in industrialized countries, natural forest cover has increased in some regions over the past thirty years, e.g., in Indiana, along with other states in the Mid-West of the United States (15,16). Symmetric to forest loss in tropical regions, the re-growth of natural forests is not primarily attributable to government programs, but to the reduced profitability of small-scale agriculture on marginal soils (17).

These findings suggest that there are limits to what we can expect national governments of REDD host countries to be able to do to reduce deforestation on their own. To alter the established patterns of land use decisions is often beyond the influence of national governments because these patterns are mainly a function of markets and local community institutions, not formal government rules and programs (14,18,19). To figure out how the forces of the market might be moderated through specific REDD interventions, we need a better understanding of the hidden costs, the transaction costs, associated with such interventions.

### **The Hidden Costs of REDD Interventions**

The core challenge for REDD interventions is to find ways of compensating land owners – governments (national and sub-national); indigenous tribes; community groups and individual landowners—for foregoing market opportunities associated with removing, and instead, conserve forests (20). To address this challenge, local REDD interventions need to find workable solutions for three substantive transaction costs: the negotiation of agreements with landowners; the monitoring and verification of outcomes; and the enforcement of agreements if the parties do not fulfill their obligations.

To reach an agreement with landowners to alter their forest-removing practices requires certainty about who owns the land. This may sound very simple, but the reality is that in most developing countries there are often multiple owners and users who claim rights to forest resources (21,22). It can be extremely messy to sort out property rights to forests, especially when statutory laws and customary norms assign conflicting rights to users (23,24). Although, national governments often appear as the formal owner of forest resources—recent research estimates that 75 percent of the world’s forest estate is owned by national governments—the *de facto* forest owners are the local people who actually access, use, and sometimes protect the resource (25). This reality poses a dilemma for policy makers: Who should be rewarded for forest conservation--the people who own the land on which the forest grows or the people who actually use and manage forests? Limiting conservation inducements to formal land owners may exacerbate deforestation and produce large social inequities in many developing countries. It may be necessary to decouple formal land ownership from management rights in order to arrive at socially responsible solutions. REDD architects need to sort out property rights uncertainties and make sure that all concerned parties are part of the bargain. For many countries, this first hurdle will be the most difficult to clear.

Even if the ownership issues are sorted out and landowners are induced to protect forests, other transaction costs loom ahead: who will monitor and verify the accomplishments? Donors and carbon credit buyers, who are the most ardent advocates of REDD, benefit from cheap credits so they may not want very close inspection (8). The sellers of the credits—the developing countries and the carbon market brokers—also have weak incentives to monitor rigorously; they may be on board because of the financial reward and looking too carefully on reported claims is not really in their interest (26). Both parties are better off by carrying out the offset transaction. Despite technological advances that allows for more reliable monitoring of changes in forest carbon, many uncertainties remain. One of the sources of uncertainty is the program’s insistence on additionality—sellers of offset credits need to show that activities rewarded under REDD would not have happened without the program (27). Such uncertainties invite strategic participants to tweak the numbers in their favor, which would create offset credits that do not represent real reductions in GHG emissions, but such cheating would be hard to detect even for third-party monitors (26, 28).

Finally, even if the negotiation and monitoring costs are successfully addressed, the REDD program will need to come to grips with enforcement costs. At the international level, how do rich countries credibly commit to withhold payments to poor countries? At the national level, it may be politically costly to enforce commitments when the non-compliers are poor people who may have failed to protect forests for very legitimate reasons: they need to eat (29).

Many of these transaction costs are hard to quantify, but REDD architects need to take them into account. Prior thought given to these costs will help policy analysts to identify best responses to deforestation. It is only when weighing the true social costs and benefits of relying on forestry for emission reductions that alternative options, such as reducing fossil fuel emissions in industrialized countries, may be compared.

## Overcoming the Hidden Costs

Solving common-pool resource problems is a difficult challenge even with substantial amounts of external funding (30,31,32). Reducing emissions from deforestation will require more than throwing money at the problem. We identify two specific avenues for reducing transaction costs and thus improve the chances for a successful REDD program. First, we suggest that REDD interventions would benefit from differentiated policy responses, refraining from "blanket" policies that treat all landowners as one big homogenous group. REDD interventions should strategically target the "low hanging fruit" of deforestation reduction--there are areas where reductions would be the least expensive. Rather than simply offer all land owners the global market price of carbon, it would be more cost effective to offer an amount that corresponds more closely with the value the land owner places on alternative land uses. While such a strategy would also involve transaction costs in terms of acquiring reliable data on individual land owners opportunity costs, these are data that may be collected as part of the field-based forest inventories, which participating REDD countries are likely to be required to conduct in order to qualify for payments (33). In Tanzania, Ecuador, and Peru, for example, national forest inventories are underway that combine biophysical measurements with field interviews with forest users so that inventory data may be used not only to quantify forest-related carbon pools, but also to estimate opportunity costs of forest conservation for a diversity of forest dwellers (34).

Finally, REDD would have a higher likelihood of success if it encouraged multi-level governance responses to forest loss. To date, REDD program architects have emphasized the role of *national* governments in reducing tropical deforestation (35, 36) but this narrow focus is fraught with unnecessarily high transaction costs. These costs may be lowered by inviting other types of organizations, besides national government agencies, to take on tasks related to the negotiation, monitoring, and enforcement of contracts. For example, a local association of forest users may do a better job at patrolling, monitoring, and protecting forests for which they have vested user rights, than would central governments (18, 30). An independent research institute is more neutral, impartial, and has often better technical expertise in monitoring compliance with land use regulations than do government agencies who may have economic and political stakes in the outcome (37).

An often overlooked option for multilevel governance is the modification of economic policies in industrialized countries (38). Reforming these policies could help reduce the need for costly interventions in REDD host countries. For example, if the United States decided to remove subsidies for ethanol production, this would increase the amount corn acreage used for non-ethanol use as well as increase the acreage planted in soy which in turn would reduce the incentive for Brazil to expand their soy frontier further into the Southern Amazon.

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