



Does the Opportunity Cost Approach Indicate the Real Cost of REDD+?

Rights and Realities of Paying for REDD+

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In this brief and the associated paper on which it is based,¹ we question whether the opportunity cost approach² used in many of the major global climate change studies³ provides realistic cost estimates for use in designing REDD+ programs.

Opportunity cost provides a theoretically satisfactory indicator of what will be needed in a well-functioning, competitive market economy to entice entities that intend to deforest to reverse their decisions.⁴ However, there are major contextual issues influencing the adequacy and appropriateness of opportunity cost estimates in developing REDD+ program strategy and design. Without factoring in the costs and time involved in resolving these issues, we could be underestimating the real costs and misguiding the debate and design of REDD+ programs. The contextual issues relate to the institutional and market dimensions of REDD+: the costs associated with establishing good governance, which means controlling corruption and illegal activity, increasing transparency and accountability, resolving basic property and use rights issues,

getting adequate technical and financial capacity, figuring ways to avoid leakages and “environmental blackmail.”

Drivers of deforestation and legal rights to deforest

From a legal perspective, deforestation takes place in one of two basic situations: (1) It is illegal for land owners/ users to deforest the land they own or occupy; or (2) it is legal for land owners/ users to deforest the land they own or occupy. Below we examine the implications in each case in terms of use of opportunity cost as an indicator of what society would have to pay to entice entities to voluntarily commit to not deforest the land they own or occupy.

WHEN DEFORESTATION IS FORBIDDEN BY STATUTORY LAW OR ZONING REGULATIONS

The simplest case is where deforestation is forbidden by state law. The opportunity cost of deforesting and using the land for another purpose is not an appropriate indicator in this case, even though it can be calculated. The costs of effective law enforcement, or the cost of changing the law to make the illegal activity legal (e.g., in the case of some forms of migrant agriculture) are the most relevant ones in these cases. As the IWG-IFR (2009) report states,

...average or marginal private opportunity cost does not necessarily reflect the incentive required to the country to reach the emission reductions target. For

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1. This brief was prepared on the basis of a much more detailed discussion.

2. In simplest terms, opportunity cost of deforestation or degradation is the net value foregone by the entity that controls the fate of the forest if the forest is protected instead of being removed and the land used to produce other outputs.

3. Cf. Stern (2008), Eliasch (2009), and most recently, the “Interim Financing for REDD” report by the “Informal Working Group” on interim financing (IWG-IFR, 2009).

4. For a more technical discussion of the use of opportunity cost, see. Grieg-Gran 2008, Pagiola and Bosquet, 2009, and Wertz-Kanounnikoff, S. 2008.

instance, in some countries significant results could be achieved through improved law enforcement, which could be achieved with relatively low investment, much lower than would be needed for REDD+ to compete with illegal activities.

WHEN REMOVAL OF FOREST COVER IS PERMITTED BY LAW

In cases where removal of forest cover, partial or total is permitted by law, the appropriateness of using opportunity cost depends on what kind of forest owner/agent and what socio-political context we are dealing with. Four main groups are relevant: (1) government entities, (2) individual or collective groups of Indigenous Peoples, migrant farmers (“slash and burn,” or “shifting cultivators,”) (3) individuals, communities or private firms that have clear title to their forest land; or (4) public corporations, e.g., corporate livestock, soy bean, biofuel, etc. producers? In what follows, we look at each of these entities.

Governments. If we are dealing with a government agency that either directly or indirectly deforests lands in the public domain, it does so for a purpose. Thus, Government may:

- be involved in resettlement or land reforms that involve forest land, some of which has to be deforested in order for the settler to gain ownership;
- want forests cleared in some border areas and land settled for national security reasons;
- sell rights to deforest (e.g., concessions) to domestic or international companies.
- indirectly cause deforestation by not having adequate manpower and technology to enforce bans on illegal logging or other illegal forest clearing.
- have officials that do not enforce laws because they are corrupt.

In most of these cases, the relevant incentives needed to change policies that lead to the deforestation depend on a host of political, social and economic factors that have little to do with the opportunity cost as conventionally used. Where opportunity cost is relevant, it often is difficult to estimate in monetary terms.

Indigenous Peoples, Migrant or “Slash and burn” farmers. If we are dealing with Indigenous Peoples, forest communities, and

migrant or “slash and burn” farmers or shifting cultivators whose land rights are not recognized and are largely outside the market economy, opportunity cost could be a relevant starting point. However, it is *perceived* opportunity cost on the part of the potential recipient of a payment that matters in terms of them making a voluntary choice not to deforest. Giving the forest dwellers or farmers money equivalent to the market values of the outputs they would forgo probably wouldn't be of much interest without massive complementary investments in housing, alternative job creation, education, etc. If these investments are not made, where do they go to live? Where do they get housing, food, fuelwood, furniture, etc.? Remember that many if not most are not in the monetary economy. Will there be social problems if they move to cities or towns? What do they do with their lives? Relevant alternative economic opportunities need to be found. The costs involved go far beyond the opportunity cost to the migrant farmers. There are many other cost related issues that exist when dealing with Indigenous Peoples and forest communities and forest farmers in the context of REDD. These are discussed in the main paper.

Indigenous Peoples, Individuals, Communities and Private firms with clear land rights and within the market economy. If we are dealing with individuals, communities or private partnerships that have clear title to their land, opportunity cost (OC) would be a relevant indicator as a starting point for the negotiations for REDD+ payments. However, in calculating and using OC, the additionality criterion needs to be kept in mind. Also, if the owners are involved in carbon offset markets, then the market price is the relevant figure to use, not their individual opportunity costs.

Corporations. Public corporations that have legal rights to land or forest have fiduciary obligations to their shareholders to keep operating or make a better return by not operating or operating in a different way. If other non-forest land is available, then opportunity cost would be a relevant starting point. However, if all that is available is other forested land, then it is almost certain that leakage will take place, although it may be in another country. In this case, the opportunity cost is irrelevant, since the corporation should not be paid, applying the additionality criterion.

In sum, the concept of opportunity cost has widespread appeal

and is widely used, particularly in global assessments that include consideration of REDD+. However, it is evident that it probably will be of limited use, considering the reality of the political and socio-economic contexts faced.

REDD+ is a “grand experiment” that will involve an iterative process of successive approximations as the associated institutional investment costs and governance issues become better defined and understood.

The real costs that emerge through this “grand experiment” surely are going to be quite different from those estimated so far.⁵ Some actual costs probably will be lower than current estimates, based on opportunity cost calculations; and some are likely to be much higher.

The way ahead: Helping governments craft the right REDD+ response framework

At this point in time, the debate on REDD+ should shift to focus on: (a) the costs and issues involved in improving forest governance;⁶ and (b) the likely longer term institutional investment costs that will need to be incurred to ensure effective REDD+ programs that protect biodiversity and help forest and forest fringe dwellers move out of poverty. These needs require a focus at the country level; and a good start has been made by CIFOR (Angelsen et al (ed.) 2009).

In the context of forest governance, three broad categories of instruments are available to governments and useful in influencing those who own or control forests. One is laws and regulations that define property rights and ownership and put limits on what one can and cannot do with forests, e.g., through zoning. A second is fiscal mechanisms – taxes and payments that create incentives not to deforest. And the third is public management or investment, including in activities that help create

5. Schmidt (2009) suggests that: “The real costs may differ significantly from opportunity cost calculations, both under an offset scheme and a market-linked approach, where prices would either be determined by the market or be negotiated. While prices will influence a country’s decision to reduce deforestation, a price below the opportunity cost would not necessarily reverse a country’s decision (and policies) to reduce deforestation.”

6. Forest governance is defined here as (Contreras et al 2008): “the set of rules and institutions that control and determine what happens to a nation’s forests and who gains and who gets hurt as a consequence.”

markets for forest environmental services (PES related activities), improve transparency and accountability, and strengthen law enforcement and other essential elements in good governance. A good REDD+ framework or architecture will draw on all three of these sets of instruments, including those affecting other sectors that lead to decisions leading to deforestation, e.g., agricultural subsidies that encourage it.

Options that need to be assessed and considered within each category include:

Laws and regulations:

- clarifying and legalizing existing traditional tenure and land use rights, redefining land use laws and policies, including zoning regulations, to create increased incentives not to deforest; establish more restricted multiple use preserves and conservation areas;
- improving the enforcement of forest laws and expanding the control of illegal forest activity and corruption;
- Rationalizing forest industry contracts for harvest on public lands and encouraging low impact logging where feasible;
- developing laws that deal directly with intersectoral policies needed to control the relationships between the forest sector and those sectors that are linked to deforestation (e.g., agriculture, energy and mining, transportation, etc.).

Fiscal mechanisms – taxes and payments:

- stopping the subsidization of forest clearing and forest degradation via agricultural subsidies, roads, etc.
- using tax incentives and other means (e.g. public research benefitting private entities), to encourage restructuring of some industries and encourage the agriculture sector to improve productivity on existing agricultural lands in ways that take pressures off forest clearing;
- expanding micro credit programs and other incentives to create new employment in and out of the forest, and for villagers and communities to establish businesses that provide alternatives to forest destruction;
- using fiscal mechanisms to encourage industries to source their inputs from companies that do not use unsustainable practices involving deforestation in producing those inputs;

Public investment

- investing in the institutional infrastructure needed to clarify

and make property rights secure.

- investing in education, extension, research and technology development that favors intensification of agricultural production on existing lands rather than newly deforested land, and that encourages longer productive use of given areas of land already deforested.
- Investing in the design and distribution of fuel efficient stoves and charcoal production systems, given that a lot of forest degradation is due to wood fuel and charcoal demand;⁷
- investing in plans, programs and procedures, including financing mechanisms beyond REDD, to encourage and support forest rehabilitation and restoration (R&R), and reforestation and afforestation where appropriate as part of REDD+ and an overall attack on poor land use that contributes to poverty, carbon release or reduced sequestration capacity, and loss of biodiversity;
- investing to make sure that the co-benefits from REDD are fully realized. It is very conceivable that in given areas carbon benefits alone may not justify payments that would lead to less forest degradation and deforestation. However, when watershed, biodiversity and other benefits are added in, the total benefits may justify from an economic perspective adequate payment to change behavior;

7. One reviewer cautioned that given various debacles in the improved wood stove field since it became fashionable about 1980, such added investment would have to be carefully planned. There also is the “rebound effect” - people cook more and more often once they get more efficient stoves, and so total consumption often in fact increases.

8. Coad et al, 2008, sums up the literature on this subject: “*Involving local communities in the planning and implementation of REDD, and ensuring that financial or other benefits are shared, is likely to result in a more sustainable solution to deforestation than are less participative strategies.*” See also Hatcher, 2009

9. Cf. Kanninen et al's (2009) survey of the documentation to date and IWG-IFR (2009).

- investing in development of effective and realistic approaches and procedures to ensure fair and transparent sharing of benefits from REDD; which means investing in development of participatory governance processes, involving local forest communities in decision making;⁸

The public investment costs mentioned above mainly relate to developing a participatory governance capacity and process that can handle major REDD+ investments. Investment costs involved in such improvements can be quite high. However, such costs need to be incurred, since most analyses of REDD confirm that having good, participatory and fair governance is a prerequisite for success.⁹ Institutional issues related to governance are at the very heart of whether or not REDD will work in practice.

Since equity and fairness also are at stake in this “grand experiment” called REDD+, it appears that the debate on which cost estimates to use is not only a technical economic one, but also about how a world really committed toward reducing both deforestation and poverty should evolve and proceed in the design of a global REDD+ architecture. It is interesting to note that the poverty-efficiency trade-off may turn out to be a “win-win” one: “*Although the unit costs of carbon abatement via REDD would most likely increase with efforts to integrate equity and poverty concerns, these increased costs need to be met in order to ensure the delivery of project or programme outputs – indeed this expenditure is likely to be highly cost-effective.*” (Olsen and Bishop 2009). We couldn't agree more.

This analysis brief is based on the paper, *Does the Opportunity Cost Approach Indicate the Real Cost of REDD+ ? : Rights and Realities of Paying for REDD+* available at <http://www.rightsandresources.org/publications.php>

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