

Estimating the opportunity costs of REDD+

A training manual

Version 1.3

Chapter 10. Conclusions and next steps

Objectives

1. Identify and discuss how to review and update the opportunity cost analyses,
2. Discuss how to communicate the results,
3. Present the next steps related to opportunity cost analysis and REDD+.

1. This manual has presented a bottom-up approach for estimating the opportunity costs of REDD+. The steps include:

- Analyzing land use change and generating land use change matrices,
- Estimating time-averaged carbon stocks of land uses,
- Estimating the profitabilities of land uses,
- Calculating opportunity costs and generating opportunity costs curves
- Interpreting the cost curves and conducting sensitivity analysis

2. In addition, the manual has presented how to:

- Examine water and biodiversity co-benefits,
- Identify and prioritize specific abatement options (land use change contexts) where co-benefits can substantially affect opportunity cost estimates,
- Estimate the economic value co-benefits,
- Review possible tradeoffs amongst carbon sequestration, biodiversity and water priorities.
- Develop scenarios of future national development and conservation paths,
- Examine the effects of different REDD+ eligibility rules,

3. In this chapter we explain how to review and update an opportunity costs estimates, effectively communicate results and identify next steps for opportunity cost analysis within national REDD+ efforts.



What opportunity costs reveal, and what not?

Opportunity costs are only one part of REDD+ costs

4. Opportunity costs are only part of the costs of REDD+. For many countries, opportunity costs could be largest of REDD+ costs (see Figure 1.1). Hence, getting a full picture of costs requires estimating all other associated costs and constructing REDD+ supply curve. Nevertheless, the opportunity costs estimates of land use changes, described above, is a significant step to understanding the cost implications that come with REDD+ participation.

The analysis is retrospective

5. The methodology presented is based on actual land uses. Although these land uses may not adequately represent future, higher-value land uses, estimates of their opportunity costs provide a useful starting reference for further analysis and estimation. Profits from land uses depend largely on soil fertility, management practices and market access, each of which can be adjusted to reflect likely future circumstances. Furthermore, the effect of new technologies and associated land uses can also be explored. Such information will become available as more countries estimate opportunity costs. Countries can use such Tier 1 type of information to develop “new” land use trajectories within scenario analyses.

No partial or general equilibrium effects are included

6. The above method of opportunity cost analysis generates simple, tractable estimates of the cost of REDD+ programs to landowners. The approach, however, does not account for global feedbacks of REDD+ that will likely affect prices and costs across a broad spectrum of land uses and economic sectors.

7. Additional analysis is required since the reach of REDD+ could be far. For example, global food and energy prices could be affected as the value of land rises. Such inter-sectoral linkages between forestry, agriculture and energy (especially with respect to biofuels) will likely impact opportunity costs. While partial and general equilibrium models deal can better estimate such complex and indirect effect, the method in this manual can provide useful first approximations via scenario analyses, whereby prices of timber and agricultural products are raised in order to estimate the effect on opportunity costs.

A qualitative valuation of co-benefits

8. This study limits the valuation of co-benefits to qualitative measures within an analysis of trade-offs. Sophisticated and expensive valuations of water, biodiversity, scenic beauty, and other co-benefits would provide potentially more accurate estimates of REDD+ opportunity costs. Nevertheless, methods to quantitatively estimate such co-benefits are not without substantial limitations and costs. Qualitative assessments of co-benefits can

help policymakers identify priority areas and land uses for special consideration within REDD+ programs.

Next steps

Updating an opportunity cost analysis

9. Since opportunity cost information can be time-sensitive, analyses should be updated periodically. National REDD+ analysis teams should review land use changes, technologies, management practices, carbon estimates and prices in order help ensure the validity of opportunity cost estimates.

10. A second reason for updating the opportunity costs is related to the availability of analytical methods and data quality. For example, countries may start either at Tier 1, 2 or 3 have. Depending on where a country starts, updates and improved accuracy may be achieved accordingly. Consider the following examples:

1. A country begins an opportunity cost analysis at Tier 1, using default values and simple tools. The uncertainties of estimates are likely to be much higher, requiring that more data collected over time to improve accuracies. This is likely to be the case for most data-scarce developing countries within the FCPF and UN-REDD+ program.
2. A country starts estimating opportunity costs using a combination of default values and representative data from the area / country concerned, thereby achieving Tier 2. Such countries will need to continue collecting more data on the ground in order to improve accuracies and build models in order to achieve Tier 3.
3. A more developed country estimates opportunity costs at Tier 3 using complete and detailed data sets. Such countries will still need to update the estimates using updated prices, land use changes and policy changes.

11. One question that arises is: *when or how often should opportunity costs be updated?* A quick answer would be it depends on the rate of change within the given analytical context (i.e., landscape or a country). Although some may argue for regular updates, the associated expenses, however, could be prohibitive. In addition, such a procedure could also lead to revisions of only a sub-set of data required (e.g. land use, carbon, profits). The mixing of newer with older information could bias a comparisons across opportunity cost estimates. Therefore, updates should be comprehensive.

12. REDD+ policy and/or carbon markets may reward or even require updates of deforestation drivers and opportunity cost estimates. Such revised analyses could help identify pressures on forests potential areas of concern, such as where opportunity costs become significantly higher. These areas may require extra policy measures to assure compliance.

Communicating the results from opportunity costs analysis

13. Effective communication tactics can help assure the use of opportunity cost estimates within the policy and decision-making arena. Since analytical methods and even the concept of opportunity costs itself can be difficult to understand, particular approaches within a range of options may be more effective. Such options include:

1. Writing, printing and disseminating an executive summary of an opportunity cost report;
2. Synthesizing the study into a policy briefs, which are published and widely-distributed;
3. Presenting results at different science-policy and stakeholder forums;
4. Sharing results and their potential implications with popular media (newspapers, trade magazines, radio, television)
5. Involving policy makers in the opportunity cost analysis. (Within a Tier 3 context, modeling approaches of various policy scenarios can be collaboratively explored. For either a Tier 1 or 2 approaches, demonstrations and reviews of analytical results improve mutual understanding and help identify priority policies to develop and implement.)

14. In the communication process, key discussion questions are important to identify and address, such as:

- a. Who are the likely winners and losers from REDD+?
- b. How large are the other costs of REDD+? How do they differ within the country and per land use change?
- c. At what price could most deforestation in the area be averted?
- d. Which areas and land uses will be most / least affected by REDD+?
- e. What aspects of the environment or the economy are likely to be most impacted by REDD+?
- f. Will REDD+ affect food and fiber production at the national level?
- g. What level of productivity increases must be achieved to offset production forgone from not expanding cultivate area?
- h. What national policies are needed to achieve reference emission levels in the future?

15. The sharing of results and discussion of implications can help both policymakers and public understand the potential benefits and costs of REDD+ participation. Feedback from stakeholders could also improve the accuracy, precision and relevance of results.