

Estimating the opportunity costs of REDD+

A training manual

Version 1.3

Chapter 3. RED(D++) policy context

Objectives

1. Provide a background on REDD+ eligibility policy
2. Introduce the concept of reference emission level (REL)
3. Discuss issues of accounting stance
4. Present the concept of nationally appropriate mitigation actions (NAMAs)
5. Introduce WB safeguards relevant to REDD+

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1. Terms and phrases that are commonly used when discussing REDD+ policy are in Box 3.1. For definitions, see Glossary in **Appendix A**.

REDD+ policy words

| | | |
|---------------|----------|--------------------------|
| Deforestation | Baseline | Business as usual |
| Degradation | Removal | Reference emission level |
| AFOLU/REALU | LULUCF | Additionality |

2. A chapter on REDD+ policy could span dozens of pages. Here we briefly present five REDD+ policy issues that are linked with opportunity cost analysis:

- **Eligibility policy** – what types of land use changes qualify within the terms of REDD+ endorsed by the UNFCCC,
- **Accounting stance** – the perspective from which costs and benefits are estimated, typically individual groups, government agency or national.
- **Reference emission level** – a future optimal emission level of a country, based on carbon prices and opportunity costs, thereby identifying the line between a good and bad REDD+ market transactions.
- **Nationally Appropriate Mitigation Actions (NAMAs)** – are a set of policies and actions that countries undertake as part of a commitment to reduce greenhouse gas emissions. Countries may take different actions on the basis of equity and in accordance with common, but differentiated, responsibilities and respective capabilities.
- **Safeguard policies** – provide guidelines for the World Bank and clients in the identification, preparation, and implementation of programs and projects. Safeguard policies have often provided a platform for the participation of stakeholders in project design, and have been an important instrument for building ownership among local populations.

An evolving REDD+ eligibility policy

3. REDD+ is maturing. REDD+ itself is an evolving concept whereby rules, regulations and other matters continue to be develop, debated, and improved. Since the Montreal Conference of Parties (COP) in 2005, the United Nations Framework Convention on Climate Change (UNFCCC) Parties have held extensive discussions regarding the scope of REDD. The UNFCCC talks began with RED (i.e. limited to only deforestation²⁵) and expanded to

²⁵ Changing carbon-rich forest land into another land use with lower carbon stocks.

REDD taking into consideration forest degradation (which does not involve a land use change from forest land to non-forest land).

4. The discussion next broadened to also consider forest conservation, sustainable forest management, and enhancement of forest carbon stocks (REDD+). In Bali December 2007, the parties to the UNFCCC confirmed their commitment to addressing global climate change, yet an agreement on REDD+ was not reached. Advances were made towards an agreement including reference to REDD,²⁶ calling for:

Diverging opinions to continue debate whether a primary set of deforestation/ degradation measures should be established, with a secondary set for other forest-based mitigation options (REDD+).

5. Agreement has not yet been reached on whether the Parties intend “enhancement of forest carbon stocks” to be forest restoration only on lands already classified as forests, or also include forestation of non-forest land.²⁷ During the COP16/CMP6 in Cancun, the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA) of the UNFCCC adopted a mechanism that encourages developing countries to contribute to mitigation actions in the forest sector by the full scope of REDD+ activities (reducing emissions from deforestation, from forest degradation, conservation of forest carbon stocks, sustainable management of forest, enhancement of forest carbon stocks).

6. Although not discussed at the UNFCCC level, a long-term vision remains for comprehensive carbon accounting across the entire spectrum of Agriculture, Forest, and Other Land Uses (AFOLU), also known as Reducing Emission from All Land Uses (REALU) or REDD+.²⁸ The definition of forest also may have implications on REDD+ (see Box 3.2 for details on what is considered forest).

Box 3.1. What is a forest and does the name matter?

The agreed forest definition of the UNFCCC within the Kyoto protocol has three significant parts:

- 1) Forest refers to any area of at least 500m² (0.5ha) and a country-specific choice of a threshold canopy cover (10-30%) and tree height (2-5 m),
- 2) The above thresholds are applied through ‘expert judgment’ of ‘potential to be reached *in situ*’, not necessarily to the current vegetation status,
- 3) Temporarily unstocked areas (with no specified time limit) remain ‘forest’ as long as national forest entities claim that such areas will, can or should return to tree cover conditions.

²⁶ UNFCCC Decision 1/CP.13, UNFCCC Decisions 2-4/CP.13, Decision 2/CP.13 dedicated to REDD.

²⁷ The option will require policies and efforts to avoid double counting with eligible clean development mechanism (CDM) afforestation/reforestation projects.

²⁸ The second + can have different meanings, depending on a person or context. It used to imply afforestation/reforestation, social safeguards, and REALU (Frey, 2010; personal communication).

Parts 2 and 3 were added to restrict the concept of re- and afforestation and allow ‘forest management’ practices including clear felling followed by replanting to take place within the forest domain. The above forest definition has a number of counter-intuitive consequences (van Noordwijk and Minang, 2009), such as:

- Conversion of forest to oil palm plantations may not be considered deforestation; such plantations can meet the definition of forest,
- There is no deforestation in countries where land remains under the institutional control of forest agencies, and is considered only ‘temporarily unstocked’;
- Swidden agriculture and shifting cultivation can be removed from the list of drivers of deforestation, as long as the fallow phase can be expected to reach minimum tree height and crown cover;
- Most tree crop production and agroforestry systems do meet the minimum requirements of forest; whereas unpruned coffee, for example, can reach a height of 5 m;
- The current transformation of natural forest, after rounds of logging, into fastwood plantations can occur fully within the ‘forest’ category;
- A substantial part of the peatland emissions may not fall under forest-related emission prevention rules if the associated deforestation is claimed before a cut-off date yet to be specified.
- Substantial tree-based land cover types fall outside of the current ‘institutional’ frame and jurisdiction of ‘forests’, and require broad-based implementation arrangements.

Although no single definition of forest can provide a ‘clean’ separation of forest and non-forest within the continuum of land uses, such a definition is likely not needed for the concept of REDD+ to advance. A draft version from the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA) of the UNFCCC (2009a) text states:

the following safeguards should be [promoted and supported] [ensured]:

...

(e) Actions that are consistent with the conservation of natural forests and biological diversity, ensuring that actions referred to in paragraph 3 below are not used for the conversion of natural forests [into plantations, as monoculture plantations are not forest], but are instead used to incentivize the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits;^[1]

In sum, the implications for the categorizing something as forest or non-forest may be unimportant if forest degradation is included. A forest definition will affect reporting procedures, not actions on the ground. To estimate REDD+ opportunity costs, associated levels of carbon and net earnings of degraded and improved forests can be calculated.

^[1] Taking into account the need for sustainable livelihoods of indigenous peoples and local communities and their interdependence on forests in most countries, reflected in the United Nations Declaration on the Rights of Indigenous Peoples and the International Mother Earth Day.

7. Opportunity cost analysis of land use changes, both avoided (e.g., forest preserved) and achieved (e.g., forest restored), will enable countries understand the potential benefits of REDD+. Such benefits are not only economic, but also include water and biodiversity co-benefits that could be substantially affected by REDD+. In other words, REDD+ policies have the capability of altering national forests, agriculture, and livestock production along with affecting the national provision of environmental goods and services of water and biodiversity resources. In sum, countries will want to know how altered eligibility rules affect achievable emission reductions from avoided and achieved land use changes.

Who pays what costs: accounting stance

8. Identifying who pays the costs, and receives benefits, of REDD+ is essential to understanding how a policy will function. For national REDD+ program, three types of perspectives are important to recognize: (1) *individual groups or actors*, (2) *national or country*, and (3) *government agency*. The mixing of these perspectives can lead to estimation errors that potentially misinform policy decisions. The perspective from which impacts are estimated is termed an accounting stance.²⁹

9. The accounting stances of REDD+ policy can be identified by other names. The perspective of *individual groups* is also known as a *private* or *financial* accounting stance, whereas, a *national* perspective can be termed *social* or *economic* (Table 3.1). For purposes of estimating the opportunity costs of REDD+, the terminology has been adjusted to avoid confusion. (The term *social costs* is more aligned with *socio-cultural costs* associated with non-economic livelihood impacts, such as psychological, spiritual and emotional – as mentioned in the Introduction).

Table 3.1. Contrasting names for accounting stances

| | | | | |
|------------------------------------|---|----------------------------------|---|------------------------|
| Country/National | = | Social | = | Economic |
| Individual groups | = | Private | = | Financial |
| <i>Pagiola & Bosquet, 2009</i> | | <i>Monke & Pearson, 1989</i> | | <i>Gittinger, 1982</i> |

10. Three important differences exist between the accounting stances. One refers to **what costs and benefits to include** within calculations. A national accounting stance includes all costs that are received within the country, net of any benefits that are received anywhere within the country, omitting any costs and benefits that accrue outside the

²⁹ This presentation is adapted from Pagiola and Bosquet, 2009.

country.³⁰ In contrast, the perspectives of individual groups and of the government only include specific costs and benefits that these groups receive. (The distribution of REDD+ costs is discussed further below.)

11. The second difference refers to **how costs and benefits are calculated**. Under the national perspective, costs and benefits are valued at the social value of resources (their value in their next-best alternative use) rather than at their observed market prices. In some countries, these prices may differ either because of policy distortions (e.g., taxes, subsidies, trade restrictions, etc.) or because of market imperfections (e.g., monopoly power, externalities,³¹ or public goods). In contrast, costs to individual groups are valued at the prices that these groups actually pay, including taxes. Years ago, the difference between social values and observed market values was quite significant. Governments would systematically distort the prices, especially of agricultural inputs and outputs. As a result of reform processes, such distortions are typically less, yet can persist to different degrees according to country.

12. The third difference refers to the **discount rate used to assess future costs and benefits**. A national perspective should use the social discount rate normally applied by the government. In contrast, the discount rate for individual groups should reflect market rates or their individual rate of time preference. These rates can be represented by a bank loan rate, if credit is available, or other (often higher) rates if no credit is available. The topic of discount rates is discussed further in Chapter 6.

13. From the country's perspective, all REDD+ costs have to be taken into consideration, including opportunity costs (including, where relevant, social-cultural and indirect costs) as well as implementation and transaction costs (Table 3.2). Nevertheless, some of these costs are cancelled out since they are simply transfers within the country. For example, although a government payment to forest owners is a cost to government, it is also a benefit to the landowner. The administrative cost, however, remain a cost to the country.

14. Individual groups, in contrast, typically are only aware of a subset of REDD+ costs, primarily opportunity costs (again, including socio-cultural and indirect costs where relevant), although in some cases they may also face some of a REDD+ program's implementation costs.³²

³⁰ Examples of benefits realized primarily outside the country include the climate change mitigation benefits of carbon sequestration and biodiversity conservation.

³¹ Externalities are the consequences of an action that affect someone other than the decisionmaker, and for which the decisionmaker is neither compensated nor penalized. In the context of forest management, impacts such as sedimentation, biodiversity loss, greenhouse gas emissions are externalities.

³² An illustrative example comes from a payment for environmental service program in Costa Rica. Individuals were responsible for the costs of preparing management plans, fencing and locating signposts, and monitoring by independent organizations (Pagiola, 2008; Pagiola and Bosquet 2009).

Table 3.2. Type of REDD+ cost to be included per accounting stance

| Cost category | Individual | Government agencies | Country |
|----------------|------------|---------------------|---------|
| Opportunity | ✓ | | ✓ |
| Implementation | * | ✓ | ✓ |
| Transaction | | ✓ | ✓ |

* denotes a cost that may be partially assumed by individuals.

15. *Government agencies* will assume a number of *budgetary costs*. Such costs typically include administrative, transaction, and implementation costs. In considering implementation costs, it is important to bear in mind that a large portion may consist of transfers, depending on how efforts to reduce deforestation are implemented. Any portion of budgetary costs which compensate individual landholders for their opportunity and other costs would be a transfer, and as such this portion would *not* be considered an economic cost to the country. (For more on this subject, see Pagiola and Bosquet, 2009, and Chapter 6 on Estimating the profits from land uses.)

Reference emission levels

16. How much emission reduction can be achieved at a specific carbon price? The answer to this question enables a country to identify and negotiate a reference emission level (REL) – a basis from which a country commits to reduce emissions. The REL is an important component of REDD+ preparation because:

- If a country reduces deforestation too little, it will miss opportunities to increase its net REDD+ revenues.

or

- It is possible for a country to reduce deforestation ‘too much’ – that is, to reduce deforestation at a cost that is higher than the compensation it receives through REDD+.

17. Figure 3.1 illustrates the above cases. The abatement level A^* (on the horizontal axis) is the quantity at which the carbon price P^* (on the vertical axis) is equal to REDD+ costs. At this level of abatement, the country receives a REDD+ payment the area of the rectangle OP^*mn . To reach this level of abatement, it faces costs equal to the area under the abatement curve up to A^* . The difference between these costs and the REDD+ payment are a net benefit to the country (known as a ‘rent’ or a ‘producer surplus’). Should a country reduce fewer emissions by less than this level (for example, abatement level A_1), it would give up some of this potential rent (the area of the triangle tsm). Conversely, if the country

chooses an abatement level higher than A^* (for example, A_2), it will face additional costs that are not compensated by the additional REDD+ income (area $nmwv$).

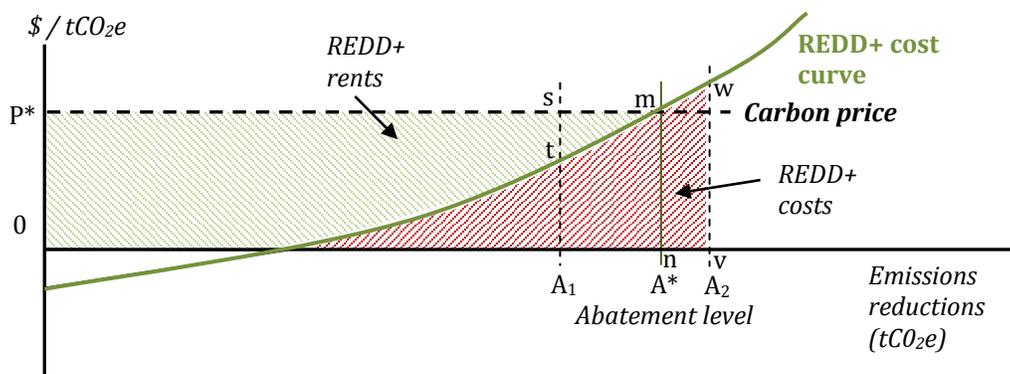


Figure 3.1. REDD+ rents and costs

Source: Authors.

18. It is important to note, however, that agreements on payment mechanisms and associated rules have not yet been reached. Thus, such REDD+ rents may not be structured exactly as explained above. For more on reference emission levels see Angelsen (2008, 2009) and Meridian (2009).

Nationally Appropriate Mitigation Actions (NAMA)

19. The term *Nationally Appropriate Mitigation Actions* (NAMA) is based on the concept that different countries take different nationally appropriate actions on the basis of equity and in accordance with common but differentiated responsibilities and respective capabilities. The concept is also linked with financial and technical assistance from developed countries to developing countries to reduce emissions. REDD can be seen as a subset of NAMA.

20. NAMA became part of the international agenda through its inclusion in the Bali roadmap, at COP13, alongside REDD. The Bali Action Plan of COP13 was centered on four main building blocks: (1) Mitigation, (2) Adaptation, (3) Technology, and (4) Financing. NAMA formed an important part of the mitigation component. Future discussions on mitigation were to address:

- Measurable, reportable and verifiable nationally appropriate mitigation actions or commitments (NAMA) by all developed countries, and
- Nationally appropriate mitigation actions (NAMAs) by developing country Parties, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner.

21. Initially, interest in NAMA articulation was less than that in REDD since no financial mechanisms existed for international support. Although the COP15 in Copenhagen did not result in binding agreements, countries were asked to express their national commitments, in a context where international investment would be linked to such commitments (but without imposing a hard conditionality). In Cancun, agreement was reached to officially recognize NAMAs under the multilateral process. An international registry will be developed with the purpose of recording and matching developing country mitigation actions with finance and technology support.

22. In Indonesia, for example, the NAMA concept has become the major driver of the national climate change policy, with the REDD activities embedded within broader efforts to reduce emissions and other aspects of economic development. Indonesia has a NAMA commitment to reduce its emissions by 26% relative to a 2020 business as usual scenario. This is now the basis of the concept of an ‘own commitment’ NAMA to be linked with an ‘international co-investment’ NAMA.

23. A challenge remains in achieving Globally Appropriate Mitigation Actions (tentatively called GAMA) and Locally Appropriate Mitigation Actions (LAMA). Both are connected to NAMA as a concept for articulating “common but differentiated responsibility” within the UNFCCC principles.

SESAs and safeguard policies of the World Bank

24. A number of World Bank safeguard policies may affect national REDD+ strategies and implementation. These policies are also reflected within a Strategic Environment and Social Assessment (SESA) of an RPP (Forest Carbon Partnership Facility, 2010). World Bank safeguards and SESAs are two mechanisms that enable a REDD Country Participant to identify likely impacts and risks, as well as opportunities, and consequently make more informed and appropriate choices between strategic options.³³

25. Environmental and social safeguard policies are a cornerstone of the World Bank in its support to sustainable poverty reduction. The objective of the policies is to prevent and mitigate undue harm to people and their environment in the development process. The policies provide guidelines for bank and borrower staffs in the identification, preparation, and implementation of programs and projects. Safeguard policies have often provided a platform for the participation of stakeholders in project design, and have been an important instrument for building ownership among local populations. The following are some of the more relevant safeguard policies to REDD+.³⁴

³³ FCPF. 2010. RPP template. Version 4

³⁴ For a complete list and explanation, see:

<http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTSAFEPOL/0,,menuPK:584441~pagePK:64168427~piPK:64168435~theSitePK:584435,00.html>

Involuntary resettlement

26. Involuntary Resettlement³⁵ is triggered in situations involving involuntary taking of land and involuntary restrictions of access to legally designated parks and protected areas. The policy aims to avoid involuntary resettlement to the extent feasible, or to minimize and mitigate its adverse social and economic impacts.

27. The policy promotes participation of displaced people in resettlement planning and implementation, and its key economic objective is to assist displaced persons in their efforts to improve or at least restore their incomes and standards of living after displacement. The policy prescribes compensation and other resettlement measures to achieve its objectives and requires that borrowers prepare adequate resettlement planning instruments prior to Bank appraisal of proposed projects.

Indigenous peoples

28. The World Bank policy on indigenous peoples³⁶ underscores the need for Bank staff and participating countries to identify indigenous peoples, consult with them, ensure that they participate in, and benefit from Bank-funded operations in a culturally appropriate way - and that adverse impacts on them are avoided, or where not feasible, minimized or mitigated.

Natural habitats

29. The policy on Natural Habitats³⁷ seeks to ensure that World Bank-supported infrastructure and other development projects take into account the conservation of biodiversity, as well as the numerous environmental services and products which natural habitats provide to human society. The policy strictly limits the circumstances under which any Bank-supported project can damage natural habitats (land and water areas where most of the native plant and animal species are still present).

30. Specifically, the policy prohibits Bank support for projects which would lead to the significant loss or degradation of any Critical Natural Habitats, whose definition includes those natural habitats which are either:

- legally protected,
- officially proposed for protection, or
- unprotected but of known high conservation value.

31. In other (non-critical) natural habitats, Bank supported projects can cause significant loss or degradation only when

³⁵ Operational Policy 4.12

³⁶ Operational Policy (OP)/Bank Procedure (BP) 4.10

³⁷ Operational Policy 4.04

- i. there are no feasible alternatives to achieve the project's substantial overall net benefits; and
- ii. acceptable mitigation measures, such as compensatory protected areas, are included within the project.

Projects in Disputed Areas

32. Projects in Disputed Areas³⁸ may affect the relations between the Bank and its borrowers, and between the claimants to the disputed area. Therefore, the Bank will only finance projects in disputed areas when either there is no objection from the other claimant to the disputed area, or when the special circumstances of the case support Bank financing, notwithstanding the objection. The policy details those special circumstances.

33. In such cases, the project documents should include a statement emphasizing that by supporting the project, the Bank does not intend to make any judgment on the legal or other status of the territories concerned or to prejudice the final determination of the parties' claims.

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³⁸ Operational Policy (OP)/Bank Procedure (BP) 7.60

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