

The REDD Negotiations

Moving into Copenhagen

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Table of Contents

Preface	iii
Abbreviations and Acronyms	iv
1.0 Introduction	1
2.0 REDD Scope and Scale	3
2.1 Options in Non-paper No. 39	3
2.2 Definition of REDD	4
2.3 Establishing a country's position on the forest/tree cover transition curve	4
2.4 Determining which options (RED, REDD, REDD+ and REDD++) address relevant sources and sinks of carbon	5
2.5 What is the definition of "forest"?	7
3.0 REDD Principles and Actions	9
3.1 Stakeholder engagement	9
3.2 Phased approach for implementation	9
4.0 Means of Implementation: Financing	11
4.1 Options in Non-paper No. 39	11
4.2 Options for funding	12
4.3 Assessing financing needs	13
5.0 Measurement, Reporting and Verification	15
5.1 Options contained in Non-paper No. 39	15
5.2 Determining what MRV requirements to sign up to	16
6.0 Institutional Arrangements	19
6.1 Options in Non-paper No. 39	19
6.2 New or existing institutions?	20
6.3 Link to NAMAs	20
7.0 Assessing Economic Costs and Benefits of REDD	22
7.1 What are the costs of REDD?	22
7.2 What are the REDD benefits?	22
7.3 Why understand the costs and benefits of REDD?	22
7.4 When to estimate the costs and benefits?	23
7.5 How to do cost-benefit analysis?	23
8.0 Concluding Comments	26
References	27

Preface

This paper was prepared for two workshops delivered by the International Institute for Sustainable Development (IISD) and the Alternatives to Slash and Burn Partnership for the Tropical Forest Margins (ASB-ICRAF). The workshops focus on reducing emissions from deforestation and forest degradation in developing countries (REDD), aiming to increase understanding of the negotiations, as well as provide information on experiences in the forestry sector to lay the technical and policy foundations for better REDD programs.

Two workshops, entitled *REDD at the Copenhagen Climate Talks and Beyond – Bridging the Gap between Negotiation and Action*, were held in Hanoi, Vietnam, November 11-13 and Nairobi, Kenya, November 16-18.

The workshops were delivered with the generous support of the Government of Norway.

Abbreviations and Acronyms

AAU	assigned amount unit
AFOLU	agriculture, forestry and other land use
ASB-ICRAF	Alternatives to Slash and Burn Partnership for the Tropical Forest Margins
AWG-KP	Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol
AWG-LCA	Ad Hoc Working Group on Long-term Cooperative Action under the Convention
BAU	business as usual
CDM	Clean Development Mechanism
CIFOR	Center for International Forestry Research
CO ₂ e	carbon dioxide equivalent
COP	Conference of the Parties
GEF	Global Environment Facility
GHG	greenhouse gas
IISD	International Institute for Sustainable Development
IPCC	Intergovernmental Panel on Climate Change
LCDS	low carbon development strategy
LDC	least developed country
LULUCF	land use, land-use change and forestry
MRV	measureable, reportable and verifiable
NAMA	nationally appropriate mitigation actions
ODA	official development assistance
RED	reducing emissions from deforestation
REDD	reducing emissions from deforestation and forest degradation in developing countries
RL	reference level
REL	reference emissions level
SFM	sustainable forest management
SMF	sustainable management of forests
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change

1.0 Introduction

There seems to be little question that reducing emissions from deforestation and degradation in developing countries (REDD) will be included in a new international agreement on climate change. The question is how? There are many unanswered questions around REDD as we move toward the fifteenth Conference of the Parties (COP 15) of the United Nations Framework Convention on Climate Change (UNFCCC) to be held in Copenhagen, Denmark, December 7–18, 2009. While expectations for Copenhagen need to be tempered, there is reasonable prospect for a political declaration complemented by a framework agreement that lays out the contours of an eventual legal instrument addressing mitigation, adaptation, financing, technology transfer and capacity building.

REDD is expected to be considered as part of mitigation efforts, consistent with the Bali Action Plan (UNFCCC, 2007, p. 1) that called for consideration of “policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.”

REDD negotiations mainly take place under the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA), with Non-paper No. 39 containing the most recent consolidated text on REDD (AWG-LCA, 2009a). The issue is also touched on by the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP) in regard to expanding the eligibility of land use, land-use actions and forestry (LULUCF) activities under the Clean Development Mechanism (CDM). Related to REDD are the discussions on agriculture under “Cooperative sectoral approaches and sector-specific actions” in Non-paper No. 49 (AWG-LCA, 2009b, p. 3–4).

Many developing countries stand to benefit from a climate change deal that accounts for emissions from forests and other land uses; and it will be important to get the right framework in place. The details of an international REDD mechanism need to be negotiated in Copenhagen and beyond. A careful balancing of interests will be required to develop a mechanism that provides effective incentives for REDD at the international level, without jeopardizing the integrity of emission reductions or resulting in adverse impacts for sustainable development in host countries.

Contentious issues remain in the REDD negotiations—such as scope, financing and governance—that will need some resolution in Copenhagen. Many of these issues are related to other areas of the negotiations and will need to be considered in the broader framework. Negotiators will need to set out clear options for ministers to choose from in Copenhagen.

This paper provides an analysis of the options for including REDD in a post-2012 agreement. It aims to identify some of the key issues and questions to be considered in the negotiations in order to craft an agreement that is detailed enough to allow early action on REDD and investment in REDD readiness, while leaving sufficient flexibility to be further developed and adjusted as countries gather experience in REDD implementation and determine their stakes and interests. The paper analyzes the options on the REDD negotiating table, and identifies critical issues and questions that negotiators might wish to consider.

The paper directly builds on and complements a Center for International Forestry Research (CIFOR) paper prepared for the UN-REDD Programme, *The State of the REDD Negotiations: Consensus points, options for moving forward and research needs to support the process* (Verchot and Petkova, 2009). The CIFOR paper summarized the state of the REDD negotiations based on submissions made and research available in mid-2009, broadly reflecting the state of negotiations after the June 2009 Bonn Climate Change Talks. The CIFOR paper outlined the broad areas of consensus and disagreement, and identified research needs.

This IISD-ASB paper reflects the state of the negotiations at the end of the resumed seventh session of the AWG-LCA held in Barcelona, Spain, November 2-6, 2009. The paper examines some of the main issues in the negotiations, including scope of REDD; guiding principles (e.g., links with NAMAs and national development plans, stakeholder involvement, co-benefits, phased approach); means of implementation (financing); measurement, reporting and verification (MRV); and institutional arrangements (governance). Each section provides an overview of the issues and the key factors in the negotiations, and sets out questions to be considered by negotiators.

2.0 REDD Scope and Scale

Since the concept of reducing emissions from deforestation (RED) was introduced at COP 11 in 2005, it has been expanded to include reducing emissions from forest degradation (REDD), and then to REDD plus the role of conservation, sustainable management of forests (SMF) and enhancement of forest carbon stocks (REDD+). There have also been proposals for taking into account emissions from agriculture and other land uses, as part of a broader AFOLU (agriculture, forestry and other land use) program. This approach has been referred to as REDD++. (Note that others have proposed that agriculture be pursued separately from REDD, including through cooperative sectoral approaches and sector-specific actions).

There is consensus on the importance of REDD+ for mitigation and that the mechanism should be implemented at the national level. There is consensus that a future REDD mechanism can be implemented in a phased approach that would address conservation, SMF and enhanced carbon stocks in later phases. There is convergence that co-benefits and broad participation should be promoted as part of these efforts, and that policy approaches should be performance-based. Outstanding issues include dealing with permanence and leakage, as well as the role of sub-national approaches in initial phases of implementation. These issues are complicated by unclear definitions of forest degradation, forest conservation, SMF/sustainable forest management¹ and enhancement of carbon stocks.

2.1 Options in Non-paper No. 39

Section 1 of Non-paper No. 39 deals with “Objectives, scope and guiding principles.” Paragraph 2 sets out the following possible alternatives for the scope of REDD mitigation actions:

- Forestry sector;
- Land use, land-use change and forestry sector; and
- Agriculture, forestry and land use sector.

Possible activity areas include:

- REDD;
- Maintaining existing carbon stocks and enhancing removals;
- Increasing forest cover through afforestation and reforestation; and
- (While promoting) enhancement of carbon stocks through sustainable forest (and land) management or sustainable management of forests.

All text is still bracketed, meaning that it is to be negotiated and agreed to by Parties.

¹ There is a lack of clarity on the term “sustainable forest management” (SFM), with some countries preferring to use the term “sustainable management of forests.” Countries preferring that latter term argue that SFM does not cover or address preservation of natural forests or biodiversity conservation.

2.2 Definition of REDD

What is meant by REDD+ is not clearly defined, and as such, is an outstanding question in the negotiations. The scope could include the following options:

- **RED** = Reducing emissions from (gross) deforestation: only changes from “forest” to “non-forest” land cover types are included, and details very much depend on the operational definition of “forest”;
- **REDD** = as above, plus (forest) degradation, or the shifts to lower carbon-stock densities *within* the forest; details very much depend on the operational definition of “forest”;
- **REDD+** = as above, plus restocking within and towards “forest”; in some versions REDD+ will also include peatlands, regardless of their forest status; details still depend on the operational definition of “forest”; and
- **REDD++** = as above plus all transitions in land cover that affect carbon storage, whether peatland or mineral soil, trees-outside-forest, agroforest, plantations or natural forest. It does not depend on the operational definition of “forest.”

Since 2007 there has been consensus on including REDD. Current debates include what, if any, elements of REDD+ or REDD++ to include in a climate deal in Copenhagen. In terms of country perspectives, the debate reflects the agro-ecological diversity within a country and the position of the country on the forest or tree cover transition curve.

2.3 Establishing a country’s position on the forest/tree cover transition curve

Deforestation, forest degradation and change in tree cover are not homogenous processes in the humid tropics. Some countries are at an early stage in the tree/forest cover transition with high forest and low deforestation (e.g., Cameroon), some countries have high forest and high deforestation rates (e.g., Indonesia), while others find themselves at a later stage where forest or tree cover was completely lost and is now recovering (e.g., Vietnam and China). Figure 1 shows examples of where countries are located on the forest transition curve. This location is a combination of agro-ecology and the driving forces of deforestation in the countries. This would generally explain what positions countries take with respect to whether or not they support the inclusion of restoration/enhancement of forest carbon stocks in a REDD agreement.

Countries would normally find themselves in one of the following categories:

- Tropical forest countries with high deforestation (e.g., Brazil, Indonesia, Ghana);
- Tropical forest countries with low deforestation and high forest cover (e.g., Cameroon, Democratic Republic of Congo, Central African Republic, Papua New Guinea);
- Countries with low deforestation and low forest cover, either due to past deforestation or are semi-arid scrublands (e.g., Tanzania, Kenya);

untapped opportunities for mitigation. Recent analysis by the World Agroforestry Centre (Zomer, *et al.*, 2009) suggests that 1 billion hectares, or 1/5 of the agricultural lands across the world, have at least 10 per cent tree cover. These areas represent a significant opportunity for additional emissions reductions, and form part of REDD++ proposals.

Table 1: Guiding questions: Scope of REDD

Key Questions	Building blocks to answer questions ... depending on which land uses are included/excluded under REDD
1. Is REDD addressing the major sources and sinks of carbon? Which land uses remain untapped?	<ul style="list-style-type: none"> • What are the different land-use sectors producing emissions? • What is the mitigation potential of these land uses?
2. Will excluding some sources and sinks have an impact on mitigation potential for included sources and sinks? <i>i.e. leakage.</i>	<ul style="list-style-type: none"> • What are the drivers of deforestation and land-use change? What are the cross-sectoral linkages?

In any given landscape, the opportunities for emission reductions (or potential for carbon storage) are spread throughout a variety of land uses. These include forests, smallholder agroforests, plantation forests, peatland management, reforestation and sustainable forest management. The costs and benefits of these different opportunities vary, as do the potential emission cuts. The scope of a REDD deal will have implications for effectiveness of emissions reductions, economic efficiency and equity,² as countries and landscapes with different land uses and carbon stock changes are included or excluded.

Proposed options for reducing emissions from deforestation differ in their conception of what land uses and land-use changes are included or excluded. Identifying which parts of the land-use change matrix are included under various emissions reductions arrangements and can help clarify the ground-level implications for different countries.

A complex set of direct and indirect factors interact to drive tropical deforestation. Geist and Lambin (2002) found that the most prominent proximate (direct) drivers are agricultural expansion, wood extraction and infrastructure extension, which themselves are driven by underlying economic factors, institutions, national policies and remote influences. For REDD to be effective in reducing emissions from deforestation, it must adequately address the drivers of deforestation.

The different land uses that are included and excluded under different framings of REDD are deeply interlinked. Agricultural expansion is the leading cause of land use change associated with deforestation

² 3E criteria was first used in *Stern Review* (2006) to evaluate GHG reductions schemes, also used by CIFOR (Angelsen *et al.*, 2008) to evaluate different options for REDD global architecture.

in the tropics (Geist and Lambin, 2002, p. 145).³ Consequently, a landscape under a REDD+ deal may well be influenced by activities in landscapes that fall outside of that particular REDD framework. Put differently, a REDD deal may reduce deforestation in one landscape, only to push the deforesting activities into a neighbouring landscape not included in the REDD framework. This is known as leakage.

2.5 What is the definition of “forest”?

The CIFOR paper notes that unclear definitions of forest degradation, forest conservation, SFM/SMF and enhancement of carbon stocks remain outstanding issues on the negotiation table. More fundamentally, there is little clarity on the working definition of “forest” although the REDD debate continues as though it were agreed. In practice, questions of “what is a forest?” and “what is not a forest?” continue to challenge stakeholders in the REDD debate, and are central when attempting to understand the different framings of REDD.⁴

The forest definition agreed on by the UNFCCC in the context of the Kyoto Protocol has three significant parts:

- *Forest* refers to a country-specific choice for a threshold “canopy cover” (10–30 per cent) and tree height (2–5 metres).
- The above thresholds are applied through “expert judgement” of “potential to be reached in situ,” not necessarily to the current vegetation.
- Temporarily unstocked areas (without time limit to “temporarily”) remain “forest” as long as a forester thinks they will, can or should return to tree cover conditions.

Rules 2 and 3 were added to restrict the concept of re- and afforestation and allow “forest management” practices, including clearfelling followed by replanting to take place within the forest domain.

Under this definition, a number of counter-intuitive consequences arise. For example:

- Removing a natural forest and replacing with other vegetation, such as oil palm, is not considered deforestation. This does not take into account the change in carbon stocks from natural forest to plantation forest, nor does it take into account the other co-benefits provided by a natural forest, including biodiversity and other environmental services.
- Deforested land that remains under institutional control of forest authorities is considered “temporarily unstocked.” As a result, it can be said there is no deforestation in a country like Indonesia.

Unclear and vague forest definitions inform tradeoffs between equity and efficiency. A community’s perception of what constitutes a forest may not align with political interests and economic potential

³ “Agricultural expansion is, by far, the leading land-use change associated with nearly all deforestation cases (96 per cent). It includes, with more or less equal frequencies, forest conversion for permanent cropping, cattle ranching, shifting cultivation, and colonization agriculture” (Geist and Lambin, 2002, p. 145).

⁴ This section draws from van Noordwijk and Minang, 2009.

for reducing emissions. The issue of definitions cuts across the entire REDD debate, and several options for addressing weak definitions have emerged.

As discussed in the UN-REDD background paper (Angelsen, *et al.*, 2009), the Meridian Institute suggests two options: Parties develop their own definitions for various deforesting activities, based on nationally appropriate unique criteria; or use definitions and frameworks for accounting for land-use change from the 2003 IPCC Good Practice Guidelines and the 2006 revision of the IPCC Guidelines for National Greenhouse Gas Inventories. A third approach is to take a broader landscape view of carbon stocks and changes (i.e., REDD++) where a clear cut definition becomes less important, and leakage risk is reduced. This could circumvent the need for a patchwork of additional rules and definitions.

The specific details of how a RED or REDD mechanism works in practice are very closely dependent on the working definitions of “forest” and “nonforest.” REDD+ takes a somewhat broader view, but the extent to which emissions can be reduced still depends on the forest definition. Proposed REDD++ mechanisms, which consider all transitions in land cover change that affect carbon storage, largely bypass the need for a strict forest definition. This approach would consider areas with trees outside forests, that are currently outside of the REDD scope. The approach would also include carbon management in agricultural lands.

3.0 REDD Principles and Actions

Non-paper No. 39 sets out a number of principles that countries will need to consider in the negotiations. All of the principles are important and require consideration, but in this paper emphasis is given to including stakeholder engagement (safeguards) and a phased approach to implementation in this discussion.

3.1 Stakeholder engagement

Stakeholder involvement is referred to in paragraphs 4 and 6, which consider referring to the promotion of the full and active participation of all relevant stakeholders in REDD actions. Paragraph 4 also calls for respect for the knowledge and rights of indigenous peoples and members of local communities. Further reference to the engagement of indigenous peoples and local communities is contained in paragraph 12 (MRV).

Protection of the rights of indigenous peoples and local communities—one of the safeguard principles in the negotiating—has been a contentious issue in the negotiations. These two groups are of particular interest in the REDD discussion because of linkages to their rights, livelihoods and well-being. For example, payments for carbon services could tempt groups to take this new forest value away from local communities unless their property and tenure rights are secured.

Some countries want this addressed in an international UNFCCC agreement and feel the current text does not provide adequate protection to these groups; while others prefer to address these issues domestically or through other international agreements such as the United Nations Declaration on the Rights of Indigenous Peoples. Negotiators need to determine if language to address indigenous and local stakeholder participation should be included in an agreement or left to national legislation.

Regardless of the decision, countries will very likely need to ensure stakeholder engagement in REDD projects and processes. This will require consideration of consultation processes to engage stakeholders in planning and delivering REDD projects and programs.

3.2 Phased approach for implementation

Paragraph 7 proposes a three-phase approach for REDD: 1) development of national action plans/strategies, policies, measures and capacity building; 2) implementation of national action plans/strategies, policies and measures that could include further capacity building and technology transfer; and 3) results-based measures that are subject to MRV. The implementation of these phases, including the choice of a starting phase, shall depend on the specific national circumstances, capacities and capabilities of developing countries.

Countries appear to be reaching consensus on the phased approach, and mechanisms and operational issues are likely to be determined in subsequent negotiations. One area of contention is what some perceive as a disconnect between the phases and financing, in that there needs to be appropriate financing linked to each phase. Some countries are concerned that the majority of financing will only materialize in the third results-based phase through the carbon market, meaning that some countries

will not be able to access adequate funding. Other areas needing agreement include MRV provisions—should they take place before phase three— and eligibility criteria for countries to move from one phase to another. Negotiators will need to consider their state of readiness to implement REDD, and work to ensure that adequate financing is available for those countries that required front-end capacity building.

Table 2: Guiding questions: Principles and safeguards

Key Questions	Building blocks to answer questions
<p>Stakeholder engagement</p> <ol style="list-style-type: none"> 1. Is stronger language needed to address indigenous and local stakeholder participation? 2. Or should the rights of indigenous and local stakeholders be left to national legislation? 3. Should participation safeguards be general principles? Or mandated? 	<ul style="list-style-type: none"> • Are there sufficient provisions if the text refers to existing international instruments such as the Convention on Biological Diversity and the United Nations Declaration on the Rights of Indigenous Peoples? • What are the positions of indigenous and local stakeholders in your country? • Does your country have existing national legislations protecting indigenous peoples' rights?
<p>Phased Approach</p> <ol style="list-style-type: none"> 1. How “ready” is your country to undertake REDD? Are continued readiness efforts required? 2. Should countries agree to MRV actions in phases one and two? 	<ul style="list-style-type: none"> • What phase might your country fit in? • Will funding flow mainly to those actions that can be monitored, reported and verified?

4.0 Means of Implementation: Financing

Financing is at the core of the REDD negotiations. The funding mechanism will determine the overall level of international financial support that will be available for REDD actions, the kind of activities for which support will be provided and the criteria for accessing such funds. The agreement for a REDD funding mechanism will have to be carefully crafted in order to achieve effective financing in the short-run, while allowing sufficient flexibility for adjustments in the long-term, to allow taking into account experiences gained with REDD financing.

Ideally, a financing mechanism will leverage and coordinate multiple sources of funding, while responding to developing countries' diverse and dynamically changing funding needs. Lack of agreement on funding in Copenhagen would inevitably delay the implementation and scaling-up of REDD activities in most countries. On the other hand, a premature decision could lead to a mechanism that turns out to be ineffective, insufficient or inequitable in the long run.

4.1 Options in Non-paper No. 39

Section 2 of Non-paper No. 39 deals with "Means of implementation" and sets out the possible financing options for activities under REDD, which could include development of national actions plans/strategies, policies and measures, capacity building, implementation of national policies and measures and actions plans/strategies, possibly including activities to be implemented up to 2012 (paragraph 8). This discussion is closely linked to the negotiations on financing under the AWG-LCA, and some countries have suggested that the financing negotiations are the correct venue for discussing REDD financing.

The critical issues in the negotiating text include:

- Support for early action (i.e., up to 2012).
- Sources of funding:
 - » Contributions from developed country parties
 - » Market-linked revenues
 - » Innovative funding sources, including auctioning of national emissions trading allowances or assigned amount units (AAUs) at international level, and penalties or fines for non-compliance of developed country parties
- Options for financing:
 - » Public funds: Specialized REDD fund (e.g., trust fund for community forest accounts, forest reserve fund for conservation and sustainable forest management), or Convention adaptation fund to support conservation and SFM.
 - » Combination of market approaches and funds: i) A fund for specific actions, such as conservation, REDD, SFM, reducing emissions

through sustainable land practices and sustainable agricultures, and capacity building; ii) allocation of AAUs from the respective allocations to relevant parties; iii) market-based mechanism that includes offset credits to contribute to compliance with emission targets in developed countries.

- Delivery of funds:
 - » REDD-funded under a window of the relevant financial mechanism established under the UNFCCC
 - » Use of existing funds and institutions
- Differentiation, in that the need for support will vary by country and over time.

The design of the mechanism will determine whether and to what extent countries can receive REDD funding in the short run, as well as lay the foundation for linking REDD to the carbon market.

4.2 Options for funding

The submissions provided by countries, NGOs and scientific institutions suggest that there is broad convergence of views with regard to the following points (see Verchot and Petkova [2009] for details). The fund should:

- Leverage multiple sources of funding, including public funds, revenues from the carbon market and revenues for market-linked mechanisms (such as auctions of permits);
- Provide coherence and coordination among different sources of funding;
- Complement domestic funding sources;
- Provide new, additional, adequate, predictable and sustainable funding; and
- Deliver positive incentives and support for REDD activities, including capacity building, institutional strengthening, technical assistance, improving governance and enforcement as well as national programs and demonstration projects.

Many countries are leaning toward a combination of funds and market approaches, while some countries want a fund approach only. An option under discussion is an initial fund-based approach transitioning into a market-based approach in the later phases. There is also an option of linking the proposed three-phase approach to financing (e.g., grant funds for phase 1; phase 2 being a transition phase with demonstration projects accessing funds through the carbon market; and phase 3 being solely a market-based approach).

The choice among these options will have fundamental implications for the extent and the predictability of funding. If countries expect grant funds exclusively from developed country parties, the extent of new and additional funding could be limited. Unless developed countries agree to a formal mechanism such as a scale of assessed contributions, it will be highly uncertain whether commitments will be fully implemented and maintained at an adequate level in the future.

Market-linked funding sources, such as revenues from auctioning permit allocation in specific sectors, can be affected by different types of uncertainty. In general, the revenues obtained in auctions reflect expectations about future prices for carbon credits, which in turn depend on the level of mitigation commitments and emission caps in the sector concerned. The Eliasch Review, for instance, estimates that auctioning of allowances for international aviation and marine emissions could generate between USD\$20 and 40 billion (Eliasch, 2008, p. 228). The actual revenues will depend on a number of other factors at the time the auction is implemented, such as the overall state of the economy, fuel prices and availability of mitigation technologies. Furthermore, each auction is a one-off source of funding. Once permits have been allocated for a sector and a time period, no further revenues can be generated through auctions.

There is some concern about the inherent risks of a pure market-based approach. There may need to be supply plans to prevent unexpected market flooding with forestry credits. As well, there is concern that some countries may not be well-positioned to benefit from the carbon market. Many point to the experience of the CDM, in that several countries, including least developed countries (LDCs) and African nations, have been largely excluded from the benefits of the mechanism. The experiences of the voluntary market could provide lessons.

It is likely that that some developed countries will prefer to support, or be able to contribute more easily to supporting, REDD if a variety of financing arrangements are available to them. This would allow public and private sector funding, with the latter likely related to carbon markets.

The delivery of funds remains an issue of contention, with developing countries generally calling for a delivery approach administered by the COP, while developed countries favour the use of existing institutions. This discussion is taken up in Section 6 on institutional arrangements.

An issue that could arise in the negotiations, and one that many LDCs might need to prepare for, is the issue of access to funding. While developing countries are calling for equitable access to funding, some countries might benefit from differentiation of access, whereby LDCs and vulnerable nations have priority access to designated funds.

4.3 Assessing financing needs

The key question from a country perspective is whether a proposed mechanism will allow a country to access sufficient funds during both the REDD start-up period and in the long run to cover ongoing costs of emissions reductions that are not compensated through the market. In determining best options, negotiators will need to: i) assess financing needs and the financing gap in the short- and long-term; ii) assess the funding that can be obtained under the different options on the negotiating table; and iii) match expected funding with short- and long-term funding needs.

Assessing financing needs for the different phases of REDD implementation is a key step in the development of any national strategy or action plan. Financing needs for REDD can be divided into two general categories. The first is financing for upfront capacity-building and policy reform, including establishment of MRV systems and forest inventories, infrastructure development, institutions for stakeholder participation, and, in many cases, land tenure and governance reforms to ensure adequate implementation of forest law. They represent significant financial investments that most countries

are unable to generate by themselves. Furthermore, they have the character of fixed costs that are independent of the scale of the actual REDD activities to be implemented. For example, in order to avoid leakage through displacement of activities, land tenure and governance reforms have to be implemented consistently within a large region or an entire country, regardless of the size or number of REDD activities a country is planning. Once the main investments have been made, these costs will drop significantly. These mainly front-end costs will have little direct effect on emissions reductions.

The second type of financing needs are related to the costs of projects and programs that lead to emission reductions. These are the day-to-day costs of implementing the programs and measures for emissions reductions, such as monitoring, law enforcement or tax collection, and the compensation of foregone benefits from deforestation and alternative land uses (opportunity costs). The costs vary with places and time and require adjustable levels of financing. Opportunity costs of logging and agriculture depend on international commodity prices and can be highly volatile. Many of the current estimates of opportunity costs, for example, do not take account of the recent food crisis. A sharp increase in food prices increases the pressure to convert forests into agricultural land. Resisting this pressure is not just about sufficient financing to compensate farmers and land owners, but also deals with the fundamental issues of food security and political priority setting. In addition, emissions reduction through afforestation and reforestation projects will further reduce the amount of land available for agriculture. In the context of globally increasing demand for food, this means that investments in agricultural productivity will be necessary to keep REDD politically and financially viable.

Table 3: Guiding questions: Financing

Key Questions	Building blocks to answer questions
<ol style="list-style-type: none"> 1. Does your country face significant upfront costs for capacity building and infrastructure (readiness)? 2. Is your country well-positioned to act on opportunities through the carbon market in a timely manner? 3. Should a REDD finance strategy be part of a country's broader mitigation efforts? 4. What financing arrangements will encourage the greatest flow of funds? 5. Is dedicated funding (earmarked funds for REDD) required for REDD? 1. Should there be differentiation of access to funds for LDCs? 	<ul style="list-style-type: none"> • What phase might your country fit in? • Will your country likely gain funds for REDD due to cost effectiveness of these mitigation efforts? • Does your country have experience with market mechanisms through the CDM? • How complicated is the land tenure system in your country? Could this limit participation in a REDD+ market mechanism in the short term?

5.0 Measurement, Reporting and Verification

This section focuses on considerations for measurement, reporting and verification (MRV) in the current negotiations. MRV in this context refers to national systems for specifying data, data collection, analysis and storage for purposes of MRV of GHG emission reductions within the UNFCCC. It involves establishing baselines and parameters for assessing additionality. This section is focused on international guidance on MRV of actions as currently discussed within the UNFCCC. The paper recognizes the importance of MRV of support, but this is not discussed in this paper.

There is general consensus that reference emissions and reference levels (RL/REs) need to be established and verified, taking into account national circumstances, and using a common methodology for measurement. MRV should be based on national forest inventories (existing or developed) and subject to periodic external review. However, the specific details of *how* to do all of the above remain unresolved.

Regarding setting of RL/REs, questions remain on *who* should be involved in setting the levels, and *how* to set the levels to take into account historical emissions levels and national circumstances. There is agreement that individual countries should be involved in the setting of their own RL/REs, but whether this is negotiated at the COP, or subject to COP or external review approval, is up for debate. Regarding historical emissions levels and national circumstances, questions remain about how to set a baseline projecting business-as-usual emissions (i.e. without a REDD mechanism), and the crediting baseline (i.e. target against which reduced emissions would be rewarded). On carbon accounting, there remain questions about whether to monitor gross carbon stocks (a simpler technique that would not account for carbon from revegetation, and may overestimate the impact of avoided deforestation), or net accounting, which is more accurate but complex, and would take into account revegetation, which would be a key component of REDD+.

5.1 Options contained in Non-paper No. 39

Section 3, “Measurement, reporting verification of action/measurement and monitoring system,” sets out options including that MRV should follow methodological guidance and guidelines provided by the COP. An outstanding issue is if REDD MRV should be consistent with the MRV approaches for NAMAs. (This is linked to the scope question—should REDD be part of NAMAs?)

Paragraph 12 contains options for setting baselines:

- Reference levels;
- Reference emission levels; and
- Correction factor to reflect national circumstances/historically low deforestation rates and forest degradation, developmental divergence and respective capabilities and capacities, including ways to address leakage (if applying sub-national approaches).

Countries’ choice of baseline options would be determined by a number of factors that relate to their deforestation history and trends, the drivers of deforestation, degradation and land-use change and

the technical capabilities of the country. Each country should thus attempt to answer a number of questions to make informed choices on the MRV issues.

5.2 Determining what MRV requirements to sign up to

Setting minimum standards and/or determining where countries could fall in a multi-tiered MRV system will have to be guided by existing and/or revised international frameworks for MRV. Two sets of guidelines exist within the UNFCCC for MRV in the LULUCF sector that would be relevant for REDD. These include the IPCC Good Practice Guidance reports of 1996 and 2006. These provide methodological guidance for reporting anthropogenic GHG emissions by sources and removals by sinks with a view to achieving comparability at national level. The second set of guidelines consists of a set of methodologies, tools and guidance documents for afforestation, reforestation and small scale agroforestry within the CDM. This set of tools and methods are relevant at the sub-national and project levels in particular.

Current guidance within the UNFCCC also specifies parameters for forest definition (see previous section 2.5), carbon pools and activities for consideration within MRVs. These parameters are given as ranges from which countries can choose based on national circumstances and therefore have not been very comparable. Successful implementation of a post-2012 REDD deal might require revision of these parameters.

Nonetheless, one parameter that countries could consider in determining what MRV requirements to sign up to in any eventual grouping of countries would be the IPCCs reporting tiers. This includes three tiers (1, 2 and 3) representing a graduated improvement in accuracy. Table 4 summarizes the reporting requirements for each tier. Analyzing country abilities with this framework in mind could help determine what MRV thresholds to accept within the UNFCCC.

Table 4: IPCC reporting tiers

Tier	Description	Comments
Tier 1	Use of default values (e.g. IPCC) Use of very coarse activity data (e.g global data sets) Use of simple tools and methods	Involves less cost and minimal capacity Provides least accurate estimates of emissions and removals
Tier 2	Use of country-defined emission factors Use of specialized land-use data (often representative data sets) Use of higher resolution spatial data Use of advanced methods and tools (e.g. remote sensing and field inventories)	Involves moderate costs and moderate capacity Provides improved estimates of emissions and removals and baselines, etc.
Tier 3	Use of specific and detailed factors Use of fine resolution land use/spatial data (often area specific) Use of complex modelling approaches	Involves higher costs and high analytical capacity and skills Provides good results for baselines, emissions and removal. Optimizes ability to monetize carbon

In assessing options, countries should determine whether to use historical or futuristic baselines, considering their appropriateness in light of national circumstances. Table 5 summarizes the implications of various baseline considerations for effectiveness, efficiency and equity.

Several country positions on baselines and national circumstances reflect the arguments highlighted in the table. One example is the Congo Basin Countries. This group of countries has made a number of submissions to the UNFCCC on REDD arguing for inclusion of a development adjustment factor and for the use of futuristic baselines given their dependence on forest resources and historically low deforestation rates. Other countries have supported this position.

Table 5: Effectiveness/efficiency and equity considerations of baseline approaches

	Effectiveness / Efficiency	Equity (International Distribution)
Historical national deforestation	Low deforestation (forest-rich) countries may opt out of an agreement	Poor and forest-rich countries to lose, others to gain
Historical global deforestation	Risk of hot air from low deforesting countries	High-deforesting countries to lose, low-deforestation countries to gain
National circumstances (country-specific factors)	May improve effectiveness if done well Risk for lower overall reductions	Depends on which factors are considered Some poor countries unable to negotiate favourable baselines
Development adjustment factor (higher crediting lines for poor countries)	More attractive for poor country participation	Benefits poorest countries

Source: Angelsen *et al.* (2008, p. 61)

6.0 Institutional Arrangements

Negotiators will be tasked with determining a guiding framework for institutional arrangements for REDD. Ideally, negotiators will want an effective, efficient and equitable REDD framework that sets out functions (what needs to be done) and roles (the institutions to perform the identified functions). This will need to take account of other discussions in the negotiations, for example REDD links to NAMAs and low carbon development strategies (LCDS).

6.1 Options in Non-paper No. 39

Non-paper No. 39 sets out the guiding framework, coordination framework and institutions for REDD. The main issues to be negotiated deal with:

- Guiding framework
 - » Under the authority and guidance of the COP
 - » Use the same framework as the one proposed to support NAMAs
 - » Represent parties in an equitable and balanced manner
 - » Use existing institutional arrangements to the extent possible
 - » Finance: coherence and coordination between various sources of financing, and guidance and criteria on actions that can be funded and from what source
 - » Coordination of activities by internationally accredited agencies
 - » MRV: support regional and national capacity building on MRV of actions; and apply guidelines, procedures and methodologies decided by the COP, including making use of existing institutional arrangements in the MRV of actions
- Institutions
 - » Financing: establish a board to manage financial arrangements; and establish an expert group or committee to advise the specialized funds or funding window.
 - » MRV: regional/REDD centres for MRV capacity building; expert review team or MRV technical panel or independent body for sub-national scale activities; technical panel of experts from developing and developed countries for MRV of support actions; and an entity designated by the COP to verify and certify emissions and removals.

6.2 New or existing institutions?

Either existing institutions or new ones will have to be entrusted with carrying out functions and tasks for a new REDD mechanism. This is a point of contention in the negotiations. In general, developing countries want an equitable governance regime under COP guidance. The financing institutions should provide direct and easy access to funds. Developing countries tend to favour the establishment of new institutions under the UNFCCC because of their dissatisfaction with the operations of the World Bank and the Global Environment Facility (GEF). Many developing countries will likely accept nothing less than the governance structure of the Adaptation Fund—where a board functions as the operating entity of the fund, the GEF as secretariat and the World Bank as trustee. Developed countries tend to favour building on existing institutions to the extent possible, and this could include bilateral, regional and multilateral, including UN, agencies.

Arguments for a new institution are that it provides an opportunity to rethink existing mechanisms (especially financing institutions) to better meet REDD needs, signals additionality to ODA commitments in a clear and effective manner, may gain support from developing countries who are not part of the old power relationships of the Breton Woods Institutions, and could bring in new expertise and functional competencies that would be distinct from traditional institutions. The advantages of existing institutions are that all countries are familiar with roles, responsibilities and existing governance structures. As well, these organizations are adept in raising capital and have begun to fund specific REDD+ activities in developing countries. They are also managing and supporting forest management programs. The time and effort needed to create a new institution cannot be overlooked; using an established institution would reduce the issues to be negotiated.

6.3 Link to NAMAs

Paragraph 19 in Non-paper No. 39 presents an option to have the institutional arrangements for REDD as part of the institutional framework proposed for NAMAs that shall operate under the authority and guidance of and be accountable to the COP. References to NAMAs and LCDS is contained in Paragraph 3(h) (specific principles) in which integration with NAMAs and development of REDD actions in the context of LCDS appear as alternatives. Further references can be found in paragraphs 13 and 14 in relation to reporting and paragraph 17 in regard to MRV of support.

This discussion of REDD being part of NAMAs is linked to institutional and financing arrangements, and the broader negotiations on NAMAs, financing and governance structures. NAMAs and REDD both involve actions undertaken by developing countries to help mitigate climate change. Countries need to determine if a specific body is needed to supervise REDD, and to verify that emission reductions are actually achieved; or if the broader framework for NAMAs could apply to REDD. For example, the NAMA registry could record the nature of the REDD action taken.

There is a divide on this issue, with some countries calling for REDD to be part of NAMAs; while others see REDD as a separate mechanism and want to keep it out of the NAMA debate. There is still considerable negotiation to determine what NAMAs might involve, whereas the REDD negotiations are considered to be more advanced. Some countries are concerned that including REDD as a NAMA could jeopardize a final decision on REDD. Another uncertainty dividing parties is if NAMAs will

be creditable or not. Those parties that would like to see a market-based approach to REDD that generates offset credits might not like to see REDD as a NAMA; and conversely countries that are against market-based approaches for REDD might push for REDD to be included as a NAMA.

One possible advantage of a NAMA approach is that the flow of finance could go directly from a developed country to a REDD country, rather than through a central COP fund. While the details are to be determined, quite possibly, developing countries would register REDD actions and the required financial support for actions, and the system/institutions would help match the request with support, and enable MRV of both actions and support.

Many developed countries are not in favour of this, arguing for a COP-administered REDD fund or a mitigation fund that includes a window for REDD, versus funds flowing directly from developed to developing countries facilitated by a NAMA registry. Many developing countries favour a fund approach to allow for flexibility in the early phases, especially to include capacity-building activities and to ensure there are equity considerations in the allocation of funds. Arguments also include enhanced ownership and control by developing countries to ensure funding meets national priorities.

Developing countries will need to seek clarity on expectations for low carbon development strategies. There might be possibilities for upfront funding to put such strategies in place, which could allow countries to assess the costs and benefits of REDD, and compare these costs with other mitigation strategies. It will also be important for developing countries to identify which parts of REDD they could fund unilaterally and which need support. This will need to be assessed in conjunction with broader funding needs for mitigation actions.

Table 6: Guiding questions: Institutional arrangements

Key Questions	Building blocks to answer questions
<ol style="list-style-type: none"> 1. Should new or existing institutions be used for REDD? 2. What is required to build MRV capacity in developing countries? 3. Should REDD be part of NAMAs? 4. How does REDD fit in LCDS? 	<ul style="list-style-type: none"> • Can existing institutions be managed in new ways or modified to suitably meet developing country expectations? • Can new institutions be developed in a timely manner? • Should REDD activities be linked to targets of developed countries? • How does REDD fit into your country's overall climate change plan?

7.0 Assessing Economic Costs and Benefits of REDD

In order to take an informed decision on REDD, negotiators must be aware of the potential costs and benefits that participation in a REDD mechanism would imply for their countries. Countries also need to determine funding requirements in terms of institutional development and capacity building in order to negotiate REDD finance. This section will focus on the various costs, and when and how to assess them.

7.1 What are the costs of REDD?

Generally three kinds of costs have been identified with REDD: opportunity costs, transaction costs and implementation costs (Pagiola, *et al.*, 2009; Angelson, *et al.*, 2009).

Opportunity costs are the costs resulting from not doing something. Within the context of REDD, opportunity costs are the profits not generated from cutting trees and converting forests to other productive land uses (White, *et al.*, 2009). REDD is going to be implemented on land that could be put to other uses, hence the forgone opportunities of the land due to REDD are opportunity costs.

Transaction costs are those costs that enable the MRV and certification of the emission reductions. They would include the costs of negotiations for financing and contracts between buyers, sellers and verifiers.

Implementation costs include expenses for planning and implementing REDD projects. This involves design, forest planning, forest and land tenure policy reforms, intensification of agriculture as a deforestation deflection measure, reduced impact logging, conservation, forest restoration activities and others.

7.2 What are the REDD benefits?

Implementing REDD could generate tremendous benefits other than carbon sequestration and climate change mitigation. Co-benefits could include biodiversity benefits, water benefits and food productivity benefits in the case of agroforestry. By allowing forests to thrive, plant and animal life is enhanced and maintained. Similarly, water services can be enhanced at a landscape- or basin-level as hydrological processes are influenced by increased plant processes. Agroforestry can enhance soil fertility and produce incomes from tree products that would otherwise not be available in drought periods (Verchot, *et al.*, 2007). There is also evidence of the influence of tree rooting systems on water availability in dry eco-regions (Bayala, *et al.*, 2008).

7.3 Why understand the costs and benefits of REDD?

Understanding the costs and benefits of REDD can be helpful in a number of ways:

- *Determining positions in the REDD negotiations.* It is important to know where we can reduce the most emissions with the least cost. Given that no decisions have been made on the eligibility of specific land uses, it could be important

to use opportunity costs information to argue for low hanging fruits such as peatlands, which generate the most emissions but actually generate by far very little returns. Some countries may be able to generate the greatest reductions and returns through soil carbon sequestration. This analysis helps countries determine best choices in the negotiations.

- *Equity reasons.* REDD will affect individuals and various sectors differently in different countries. Some will benefit and others will lose. Assessing costs and benefits can help to avoid negative REDD impacts on poorer communities.
- *REDD strategic planning and implementation.* Costs and benefits are important for decision-making and design of policy incentives that effectively reduce deforestation. For example, a policy incentive that does not match the opportunity cost of REDD in a given area is unlikely to be effective in reducing deforestation. REDD costs are also important for planning capacity-building efforts.

7.4 When to estimate the costs and benefits?

The costs and benefits of REDD can be estimated at any time in the REDD cycle based on any of the reasons mentioned above. Table 7 shows when and why cost-benefit analysis should be done in a phased approach to REDD. Costs and circumstances keep changing, thus REDD costs and benefits analysis should be updated on a regular basis. This implies that costs and benefits analysis of REDD is an iterative process.

7.5 How to do cost-benefit analysis?

The methods used for REDD cost-benefit analysis would depend on the resources and analytical capacity and skills of the country. Box 1 provides an example of an opportunity costs study from the ASB Partnership.

Table 7: REDD phases and cost-benefit analysis

REDD Phases	Cost-Benefit Analysis
<p>Preparation and Readiness Phase: REDD strategy development, capacity building, institutional development, demonstration activities</p>	<p>Tier 1 or 2 cost-benefit analysis For negotiation support and REDD planning</p>
<p>Early Action Phase: Piloting and testing of strategies, capacity enhancement, development of REDD+ project portfolio, setting reference levels and MRV infrastructure</p>	<p>Tier 2 or 3 cost-benefit analysis For policy design and Implementation</p>
<p>Performance-based Payments: Quantified emission reductions, CERs, full REDD implementation mode, benefit sharing</p>	<p>Tier 3 cost-benefit analysis For improved effectiveness and efficiency in REDD implementation</p>

Box 1: An example of an opportunity costs study from the ASB Partnership

In 2007, ASB scientists in Indonesia, Cameroon and Peru representing tropical forest margin areas across the world carried out studies on the economics of deforestation (Swallow, *et al.*, 2007). The study drew on a decade of research by the Alternatives to Slash and Burn (ASB) Partnership for the Tropical Forest Margins on the tradeoffs between local development and the environmental consequences of tropical deforestation. It also demonstrated a method for calculating the opportunity costs of avoiding deforestation at the landscape level in these countries.

With carbon prices at the time of the study, it made more economic sense for farmers to plant annual crops at the expense of forests. Such land-use changes usually generated less than USD\$5 for each tonne of carbon dioxide equivalent (CO₂e) released; an amount that is unlikely to lift farmers out of poverty. In contrast, the European market was paying about USD\$16 per tonne of carbon. This implied that if farmers were rewarded for carbon stored in trees and forests, vast areas of forest could be saved and carbon emissions greatly reduced.

The study also showed that when peatlands in Indonesia were converted to other land uses, large stores of carbon are emitted in the form of CO₂ and that most of these conversions provided very small returns to the farmers. Another finding (related to benefits) was that cocoa agroforests in the Congo Basin (Cameroon) are a unique system that can provide both moderate returns to land, sequester carbon and maintain high levels of biodiversity. These country-specific issues deserve more attention in the policy-making arena.

This study built on past ASB methods and assessment of the economic returns (net present value-NPV) and carbon stocks associated with alternative land uses as follows:

1. Medium resolution satellite imagery was used to characterize land use and land-use change between 1990 and 2005.
2. Researchers combined data from different sources to conduct a pixel-by-pixel analysis of current land use, land-use change, change in time-averaged carbon stocks, and change in NPV.
3. The data was aggregated across the landscape for all carbon-emitting land uses, to produce estimates of the magnitude of carbon sequestering and carbon-emitting land-use changes as well as an opportunity cost curve.

8.0 Concluding Comments

Overall, REDD discussions seem to be further ahead than other topics under the AWG-LCA. While expectations for Copenhagen are waning, there is still hope for an agreement on REDD. Negotiators will want to get the framework right, as this will be the premise upon which a long-term REDD mechanism will operate. Most of the details and modalities will likely be negotiated and adopted at later stages, but there are critical issues for the emerging REDD framework that developing country negotiators need to consider as they move toward Copenhagen.

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