



**REDUCING EMISSIONS FROM DEFORESTATION IN  
DEVELOPING COUNTRIES (REDD)**

**A SCOPING EXERCISE FOR THE INTER-AMERICAN  
DEVELOPMENT BANK (IADB)**

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## 1. INTRODUCTION

The purpose of this report is to provide an overview of reducing emissions from deforestation in developing countries (REDD) and to outline a range of possible actions for the Inter-American Development Bank (IDB) to consider. It is based on background research and a series of meetings held at the IDB headquarters June 7-8, 2007.

Papua New Guinea, Costa Rica and seven other developing countries known as the Coalition for Rainforest Nations introduced the proposal on Reducing Emissions from Deforestation in Developing Countries (REDD) at the United Nations Framework Convention on Climate Change (UNFCCC) negotiations in November 2005<sup>1</sup>. REDD is - at its core - a proposal to provide financial incentives to developing countries that voluntarily reduce their national rates of deforestation and associated carbon emissions over some historical or modeled time<sup>2</sup>. Approximately 20% of global GHGs are from deforestation and degradation in developing countries<sup>3</sup>.

Since the Coalition for Rainforest Nations introduced their REDD proposal in 2005, the issue has shaken the core of climate change negotiations and it is now a pivotal part of the broader post-2012 negotiations.

Europe, which was generally opposed to tropical forest conservation in the Kyoto Protocol's 1<sup>st</sup> commitment period, has become an enthusiastic REDD supporter. On February 13, 2007, an EU negotiator said tropical deforestation would be one of three key components for brokering a replacement agreement to the Kyoto Protocol<sup>4</sup>. A report released by the UK's House of Commons Environmental Audit Committee<sup>5</sup> noted:

Anything that can be done through the mechanisms of offsetting—in the voluntary or compliance markets—to preserve existing forests, so long as the projects or methods are robustly grounded in good science and good practice, and allowances or credits made available are properly audited, has to be encouraged.

Elsewhere in Europe, the Global Canopy Programme<sup>6</sup> has begun circulating a petition to ensure carbon credits from REDD “are included in all of the world’s carbon markets, especially those created by the UNFCCC”. It plans to bring this petition to the European parliament as well as the UNFCCC negotiators.

In the US support for saving tropical forests as a tool to combat climate change is also growing, despite the Bush administration’s opposition to the Kyoto Protocol. On February 8, 2007, U.S. House of Representatives Speaker Pelosi said, “... *We must*

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<sup>1</sup> The Coalition for Rainforest Nations, [www.rainforestcoalition.org](http://www.rainforestcoalition.org), had nine members in November 2005. Now it has 15 member countries and a growing informal alliance of “friends of the coalition”.

<sup>2</sup> Some observers include the term “degradation” as the 2<sup>nd</sup> “D” in the REDD acronym. However the Coalition submission and subsequent UN paper do not.

<sup>3</sup> IPCC Fourth Assessment Report Working Group 1: Physical Assessment of Climate Change (FAR WG1). 2007.

<sup>4</sup> <http://uk.news.yahoo.com/12022007/325/push-new-climate-treaty-intensifies.html>.

<sup>5</sup> The Voluntary Carbon Offset Market. House of Commons Environmental Audit Committee. July 23, 2007.

<sup>6</sup> <http://www.globalcanopy.org/>

*address land-use policies in the U.S. and worldwide, since the loss of forests currently contributes about 25% of global ...emissions<sup>7</sup>". On July 24, 2007, a JP Morgan banker told a US Senate Environment and Public Works meeting on global warming, "Prices will tend to be lower the more supply there is. The easiest way to expand emissions supply is to increase carbon offsets. I don't have a precise recommendation but there is an ideal balance. One of the mistakes of the Kyoto Protocol is to prohibit the preservation of tropical forests<sup>8</sup>".*

Even Brazil, which for a decade has resisted attempts to include tropical forest conservation as part of carbon trading in international climate policy, has begun to reconsider its position. A recent New York Times article<sup>9</sup> concluded that the drought in Brazil has convinced the government to reconsider this long-standing position:

...Negotiators and others who monitor international climate talks say Brazil is now willing to discuss issues that until recently it considered off the table, including market-based programs to curb the carbon emissions that result from massive deforestation in the Amazon.

In short, there is the perfect storm for substantial progress on REDD in coming months and years. Prospects for US national cap-and-trade legislation are increasing along with calls for including REDD-like credits in the US emission reduction supply. Post-2012 UNFCCC deliberations are heating up and tropical deforestation is on the minds of key policy makers. Europe has witnessed a radical shift in its attitude toward REDD in the past two years and now is an active supporter. Brazil, long the main opposition to fungible REDD credits, has even begun to re-evaluate its position on REDD.

**It is increasingly likely the next year or two will see a major breakthrough for saving tropical forests using carbon markets.**

Given this rapid pace of progress for REDD, there are numerous opportunities for IDB to act. IDB has taken an important step forward with its sustainable energy and climate change initiative (SECCI). Latin American and Caribbean Countries (LACs) are some of the most sophisticated countries in the world on REDD and avoided emissions from deforestation. There are large financial opportunities and development needs, the market is still just starting, and IDB must decide whether or not to engage the REDD issue.

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<sup>7</sup> Speaker Nancy Pelosi to the Committee on Science and Technology, February 8, 2007.

[http://democrats.science.house.gov/Media/File/Commdocs/hearings/2007/full/08feb/pelosi\\_asdelivered.pdf](http://democrats.science.house.gov/Media/File/Commdocs/hearings/2007/full/08feb/pelosi_asdelivered.pdf)

<sup>8</sup> <http://www.hillheat.com/events/2007/07/24/economic-and-international-issues-focusing-on-global-warming-policy>

<sup>9</sup> <http://www.nytimes.com/2007/07/31/world/americas/31amazon.html>

## 2. POLICY OVERVIEW AND RECENT DEVELOPMENTS

Reducing emissions from deforestation in developing countries (REDD) is an issue that has gone from being a minor concern, left out of the Kyoto Protocol's 1<sup>st</sup> Commitment Period, to a central issue with real political momentum. In this section an overview of REDD is provided. The **Appendix** contains an annotated history of REDD since 2005, with links to key decisions, reports and announcements. This section concludes with remarks about varying attitudes on the issue by the international community with a focus on LAC perspectives.

### International Climate Change Negotiations

The Kyoto Protocol capped greenhouse gas emissions by industrialized nations for the years 2008-2012 and catalyzed global carbon markets. In 2006, the global carbon market was estimated to have reached \$30 billion, a three-fold increase over 2005<sup>10</sup>.

UN talks for future commitments have begun on the size and rules for the carbon market after the Protocol expires in 2012. The UN is holding two sets of meetings to develop new rules for commitment periods. The first is the Ad Hoc Working Group (AWG) on Further Commitments for Annex 1 Parties, held under the Kyoto Protocol. The second is a series of workshops under the dialogue on long-term cooperative action to address climate change by enhancing implementation of the Convention ("the Dialogue").

A central question in these climate change talks is, "*What level of cuts in GHG emissions will countries agree to meet?*" Will the cuts be deeper than the current Kyoto Protocol levels? Or will the talks lead to a retreat from the already-modest commitments? From a climate, political and economic point of view, this is the most important issue.

A second key issue is, "*Which countries will take on what types of obligations?*" Europe, Japan, Russia and Canada, have ratified the Kyoto Protocol (KP) and have begun using domestic action and global carbon markets to meet their obligations. Other developed nations, notably the United States and Australia, remain opposed to the Kyoto Protocol. For developing countries, the only market-based reductions come through the important, but limited, Clean Development Mechanism (CDM).

A combination of deeper cuts in GHG emissions *and* more countries involved in mitigation would represent a major breakthrough in global climate change policy. This could potentially come at a time that scientists and the public are increasingly agitated about the relatively slow international response to global warming. Reducing emissions from deforestation in developing countries (REDD) can make progress on the two key issues of the post-2012 talks: deeper cuts and more countries involved.

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<sup>10</sup> The World Bank. 2007. State and Trends of the Carbon Market 2007. K. Capoor & P. Ambrosi. The World Bank in cooperation with the International Emissions Trading Association. Washington DC. [carbonfinance.org/docs/Carbon\\_Trends\\_2007-\\_FINAL\\_-\\_May\\_2.pdf](http://carbonfinance.org/docs/Carbon_Trends_2007-_FINAL_-_May_2.pdf)

### **REDD and Climate Change Policy: Before COP11 (2005)**

Before the end of 2005, the issue of carbon emissions from deforestation was not a climate change policy topic with much momentum or support. In prior negotiations, the role of forestry in climate change mitigation was hotly debated. There were early critical differences on avoided deforestation in the late 1990s and early 2000s. These differences were primarily political differences (“Is avoided deforestation a loophole or key flexibility instrument?”). However, these political differences were often fought on technical grounds (“Is it possible to calculate how many carbon reductions occur when forests are not cut or cleared?”). As a result, much of the pre-COP11 history of REDD is a history of detailed scientific and technical debates.

Due to a variety of concerns, incentives to reduce tropical deforestation and carbon emissions were explicitly prohibited by the Marrakesh Accords, the “rulebook”. This was based on three key areas of concern:

- 1) **Environmental integrity.** There were concerns that forest conservation would not be additional, would cause leakage, would not be permanent, and would jeopardize biodiversity. Many of these concerns centered on plantations, although forest conservation was also derided as environmentally suspect.
- 2) **Social impacts.** There were concerns that incentives for planting or saving forests would displace local people, deprive them of their rights, and cause a new form of “carbon colonialism”.
- 3) **Economic and market impacts.** There were concerns that forest conservation and reforestation would dilute the pressure to reign in fossil fuel emissions. There were a finite number of reductions called for in the Kyoto Protocol; and every ton of carbon saved or sequestered in forests would be a ton industries did not have to reduce on their own.

In the end as part of the Marrakesh Accords, four restrictions were imposed on forestry mitigation in developing countries:

- 1) The only eligible type of forestry was defined areas for growing forests (“sinks” projects)<sup>11</sup> and these were restricted to lands deforested by 1990. Avoiding emissions by conserving tropical forests in developing countries was explicitly forbidden from carbon crediting under the CDM.
- 2) A cap of one percent of an Annex B country’s base-year emissions was imposed on CDM sink projects.
- 3) A separate body of the CDM Executive Board was established for regulation, project approval and methodology design of forestry projects. The rules for CDM forestry projects were delayed and forestry projects were forced to go through separate application procedures. Given this late start, as of December 2006, 428

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<sup>11</sup> Legally and biologically, sequestering carbon by *growing* trees is different than preventing emissions by *conserving* trees. Sequestering (or “fixing”) carbon is technically the transfer of atmospheric carbon dioxide into biomass carbon in vegetation. Preventing deforestation stops carbon biomass from being oxidized (through burning or decomposition) and turned into atmospheric carbon dioxide.

CDM projects have been officially registered. Of those 428, only 1 was a forestry project<sup>12</sup>, the Pearl River Watershed Management project in China.

- 4) Unlike other sectors, CDM forestry projects generate “temporary” carbon credits that must be replaced after a certain number of years. This decision substantially reduced the value of forestry projects and the carbon credits they produced<sup>13</sup>.

### **REDD and Climate Change Policy: After COP11 (2005)**

As the annotated history of REDD since COP11 shows (**Appendix**), support for REDD has matured rapidly in the past 18 months. Unlike the years before 2005, REDD now enjoys considerable support, at least in general terms.

REDD has generated its support for a variety of reason. First, it addresses 20% of global emissions neglected by the Kyoto Protocol’s 1<sup>st</sup> period. Second, as noted above, REDD can help “crack open” two major climate change policy challenges: deeper cuts and more participation. A new supply of REDD carbon credits could potentially enable Annex 1 countries to make deeper cuts post-2012. Proponents of REDD have constantly said that new supply must be met with new demand - if REDD credits become part of a post-2012 market, Annex 1 countries must make deeper cuts. Third, REDD is an innovative proposal led by a coalition of developing countries. This fact has given REDD a unique platform from which to work and negotiate.

As far as post-2012 negotiations, REDD is one of the first topics with a deadline attached to it. Countries that are “party” to the UNFCCC established a two-year process to debate the issue. This December 2007, at COP13 in Bali, negotiators will conclude the 24 month process and some decision on REDD is likely. In this sense, REDD could prove to be a bellwether issue – setting the tone for future diplomatic rounds. A stunning success could lead to more breakthroughs in climate change policy. Alternatively, delays in negotiating REDD could signal difficult years ahead for brokering a total climate change agreement.

The following sections provide show key areas where most countries agree and where they disagree. Where relevant, perspectives from the LAC community are presented.

### **General Areas of Agreement on REDD**

In general, most countries “like” the idea of saving rainforests as an instrument to combat climate change. This is, in of itself, a remarkable change from a few years ago. Most countries also support the idea that new financial incentives are needed in order to combat the current economic paradigm that by-and-large favors forest destruction (for agricultural, ranching, or commercial activities). Most countries also agree that a substantial number of developing countries will need technical and other types of training. Some of the capacity needs include methods to measure carbon and deforestation, approaches to reduce deforestation, and guidance on interacting with global carbon markets and carrying out international diplomacy.

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<sup>12</sup> Information from the CDM statistics website, <http://cdm.unfccc.int/Statistics>, Viewed December 7, 2006.

<sup>13</sup> Chomitz and Lecocq, 2003.

All LAC countries support new tools to combat deforestation and climate change, and agree these tools must include economic incentives. Argentina has raised some concerns about REDD, noting sensitivities with trade multilateral agreements. Other than that, there is widespread agreement among LACs that the REDD issue should move forward in negotiations and new financial resources and training are needed

Most countries also have expressed a sense of urgency, recognizing that delay in getting new financial incentives to stop deforestation will exacerbate the climate change problem. Most countries support the call for immediate steps to halt to deforestation and most support some notion of “early action”, namely, some form of crediting for countries that reduce deforestation ahead of international policy agreement.

Most countries agree remote sensing systems will play an important role in assessing deforestation and monitoring efforts to stem deforestation. There is also broad recognition that more carbon field measurements are required, in part to ground-truth remote sensing information. This is a key area where relatively modest investments can lead to substantial improvements in understanding forest carbon dynamics.

Countries also broadly agree that the Intergovernmental Panel on Climate Change’s National Guidelines for GHG Inventories<sup>14</sup> should be used to calculate reference levels of emissions from deforestation (also referred to as “baselines”). Most LAC countries support the use of these guidelines and have noted that additional resources are needed to assist developing countries prepare national GHG inventories in the land use sector.

Most countries believe financial incentives should be based on a price for carbon and that payments for REDD credits should be based on verified (after-the-fact) reductions in deforestation, below some reference level. Finally, most countries agree that any REDD credits will only be eligible for post-2012 crediting, if at all (see below).

These commonalities represent substantial broad support among Parties to the UNFCCC. They provide a strong basis for moving REDD forward at the Bali talks and beyond.

### **General Areas of Disagreement on REDD**

Despite many areas of consensus, REDD also is an issue that raises fundamental differences between countries.

The main international difference at the negotiating level is essentially, “Where would new money for reducing emissions from deforestation come from?” Although most countries agree that the new money should come from carbon markets, the US, Australia and Brazil have different opinions.

The US and Australia have not ratified the Kyoto Protocol. The US has stymied attempts to bring carbon markets and caps into the UNFCCC. The US has also said since it is not going to ratify the Kyoto Protocol, countries are free to discuss markets and caps in that forum since it won’t participate. This puts the US squarely in a camp opposite of Brazil.

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<sup>14</sup> <http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.htm>

Brazil has ratified the Kyoto Protocol and has many CDM projects where it receives “green investments”. But Brazil has consistently said it opposes REDD credits being used by Annex 1 countries to meet their quantitative reduction targets. This has been a decade-long position, although there are indications this position is being re-evaluated. Brazil has said it prefers a fund mechanism that relies on voluntary contributions even if it uses a carbon price signal. Most other Latin and Caribbean countries support the concept of voluntary funds, but also believe that REDD credits should be used. Thus, a key difference within the LAC community is whether economic incentives for reducing deforestation should include fungible and tradable carbon credits.

Another key difference is whether there should be REDD credits at the project scale. REDD is largely discussed in the context of reducing national rates of deforestation. The relationship between project activities (at a single site) and national activities and accounting is still being discussed. Some LAC countries, notably Colombia and Mexico, have said would like to see incentives for project level reductions in deforestation.

A final issue is whether countries that have already reduced rates of deforestation (such as Costa Rica, India and China) should be rewarded for conserving forests. The logic is that although they have already conserved much of their forests, this is not a permanent set-in-stone decree. These countries favor a “stabilization fund” or a “conservation fund” to provide continual incentives for maintaining forests already once conserved. They point out that if many countries reduce rates of deforestation due to REDD incentives, this could cause activity-displacing (logging companies moving to a nearby country) and market leakage (supply of available timber declines as more countries protect forests). Along similar thinking, other countries with large amounts of forests and low current deforestation rates would not benefit significantly from a REDD type of system. These countries (such as the Guyanas and certain countries in Africa and Asia) have said that they should also be compensated for not increasing their rates of deforestation as their levels of development increase<sup>15</sup>.

Given these areas of agreement and disagreement, where does the issue stand? What are the chances that a breakthrough can be brokered for substantial new incentives for reducing deforestation? The latest round of negotiations, the 26<sup>th</sup> session of the Subsidiary Body for Science and Technical Advice (SBSTA 26) was the last chance for reaching agreements on REDD and other issues in formal sessions before COP13. And despite the goodwill of the past 18 months, SBSTA forward a very weak draft decision to COP13. The draft REDD decision had 21 sets of brackets<sup>16</sup>, or areas of diplomatic disagreement. Many of these brackets relate to areas of disagreement noted above.

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<sup>15</sup> Fonseca et al. 2007.

<sup>16</sup> <http://unfccc.int/resource/docs/2007/sbsta/eng/110.pdf>



### 3. SCIENTIFIC, TECHNICAL & ECONOMIC ISSUES: SUMMARY & ANALYSIS

The issue of forestry and climate change mitigation has always dominated by scientific and technical challenges and debates. “Can carbon stocks and fluxes be measured”? “How does one estimate avoided emissions if there are no emissions to measure”?

This chapter briefly summarizes and analyses key scientific and technical issues that underlie REDD negotiations and implementation.

#### **State of Carbon Science, Technologies, and Methods**

A key feature of the science and technical debate is measuring carbon in trees. Estimating forest carbon stocks is not particularly difficult. There are simple equations that use the diameter of trees at breast height and the height of trees to estimate volume of trees. Once the volume a forest is known, simple conversions are made to carbon stocks.

Since COP11, there has been renewed attention on the need to estimate carbon stocks and emissions from deforestation and degradation in developing countries. The most pressing technical challenges for REDD is generating reliable, country-wide estimates of forest carbon stocks and reasonably accurate estimates of how much deforestation is occurring and where.

It is important to note that REDD proposes a system of *national incentives*. That is, if developing countries can reduce their national rates of deforestation, proponents for REDD believe financial incentives such as carbon credits should compensate federal governments. This is a key point. REDD requires reliable *national* carbon estimates. And while measuring carbon in trees is relatively easy, it is too expensive to measure every tree in a country. The most common technique to derive national carbon estimates from limited field measurements is to use a modeling approach.

#### **Global Carbon Models and IDB Countries**

The Coalition for Rainforest Nations commissioned a study that used the four leading carbon models. These models divide all forests into discreet types or classes. They then assign a uniform carbon value for each forest type.

**Table 1** provides a summary of the forest carbon stock (above & below ground biomass) for most IDB member countries. It was based on a common Global Land Cover map for the year 2000 (except for FAO) and used four prevailing carbon models to estimate stocks at a resolution of 1km<sup>2</sup>. Results reported in the latest FAO State of the World’s Forests are provided as a comparison.

**Table 1.IDB National Forest Carbon Stock Estimates (millions of tons of Carbon)<sup>17</sup>**

Based on Compilations of Harvest Data				Based on Forest Inventory		Total Range
Country	Olson Medium (1983)	Houghton (1999)	WGBU (1998)	Achard et al. (2002, 2004) / Brown (1997)	FAO (2005)	Based on all Estimates <sup>g</sup>
Belize	198	318	203	218	59	59 - 318
Bolivia	6542	9541	7500	2469	5296	2469 - 9541
Brazil	54697	81087	54692	82699	49335	49335 – 82699
Colombia	6737	10085	7336	2529	8062	2529 – 10085
Costa Rica	471	704	459	493	193	193 – 704
Ecuador	941	1379	1455	351	..	351 -1455
El Salvador	105	153	108	117	..	105 – 153
Fr. Guiana	1097	1683	1031	403	..	403 – 1683
Guatemala	787	1147	766	823	498	498 – 1147
Guyana	2494	3742	2356	923	1722	923 – 3742
Honduras	852	1268	835	901	..	835 – 1268
Mexico	4361	5924	9769	4646	..	4361 – 9769
Nicaragua	930	1395	904	972	716	716 – 1395
Panama	509	763	509	549	620	509 – 763
Paraguay	2831	3659	2788	1087	..	1087 – 3659
Peru	7694	11521	9748	2782	..	2782 – 11521
Venezuela	6141	9202	6042	2326	..	2326 – 9202
<b>TOTAL</b>	<b>97,387</b>	<b>143,571</b>	<b>106,501</b>	<b>104,288</b>	<b>66,501</b>	

Based on these estimates, LAC countries have approximately 100 billion tons of carbon in forest carbon stocks (not including soil carbon). This equates to roughly 50% of global forest carbon stocks<sup>18</sup>.

Other estimates of forest carbon exist for developing countries. These include estimates compiled by the International Energy Agency, submissions by countries to the UNFCCC, and various scientific and academic studies that employ multiple techniques (modeling,

<sup>17</sup> H. Gibbs, S. Brown, J. Foley and J. Niles. 2007. Can Forest Carbon Stocks in Developing Countries Be Measured? In review.

<sup>18</sup> It should be underscored that these are stocks, not fluxes.

meta-analyses, isotopic analyses, remote sensing and case studies) at various scales. In general, most studies agree that tropical forests store around 200 billion tons of carbon and roughly ½ of all global tropical forest biomass is in the Americas.

### **Needed: Field Measurements of Carbon**

The largest gap in information is reliable and scaleable forest field measurements and inventories. While global models are valuable for providing a range of estimates, they often show a considerable range, and more field researchers are needed to go out and systematically estimate forest carbon. There is a broad agreement that carbon assessments should be carried out in a way that allows coordination and interoperability with remote sensing techniques. This will most likely be done by devising common forest classification schemes, upon which remote sensing and carbon measurements are based.

### **2006 IPCC Guidelines for National Greenhouse Gas Inventories<sup>19</sup>**

There is broad agreement among UNFCCC Parties that REDD should make use of the IPCC's 2006 Guidelines. These internationally-accepted technical papers provide uniform guidance on estimating carbon inventories and emissions. While only voluntary, they are the "global standard" for how GHG emissions and removals are estimated. The 2006 IPCC Guidelines use a common format across sectors, and combine activity data (e.g., deforestation rates) and emission factors (e.g., carbon and GHG emissions per unit forest area) to estimate emissions. The IPCC GPG gives countries using the GPG three tiers, or levels of certainty, to choose from. Tier 1 is the most elementary information; often simple numbers represent complex and dynamic systems. Tier 2 introduces more detailed information, and provides more confidence that stock and flow estimates are reasonable (**Table 1** in an example of Tier 2 calculations). Tier 3 is a robust carbon accounting system for a given activity. Unfortunately, the 2006 IPCC Guidelines are cumbersome and poorly understood in many countries.

### **Remote Sensing Science, Technologies and Methods**

The remote sensing community has been contributing substantially to the REDD dialogue. There are thousands of journal articles, manuals, and software programs that explain remote sensing and REDD. A key concept to understand is that it is not yet possible to measure carbon pools (stocks) or emissions (fluxes) from space.

Remote sensing is clearly useful at detecting forest area change. By combining knowledge of carbon stocks (see above) and forest loss, it is simple to estimate emissions. In general, the above ground biomass in a forest is presumed to be lost with deforestation, although some models use a book-keeping approach to estimate all various carbon pools.

Remote sensing can provide some insight into carbon pools and has a valuable role to play in assigning forest classes. Since carbon stock estimates are often aggregated according to various forest type, remote sensing allows change detection at the scale of different forests classes and conditions (e.g., degraded or not).

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<sup>19</sup> <http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.htm>

**Countries estimating reference emissions scenarios of carbon emissions from deforestation should use the same forest classifications for remote sensing systems as is used for ground-based carbon measurements.**

While not essential, such a consistent forest classification is the easiest way to “dock” or “interlock” data on land use change and data on carbon stocks and fluxes. Given that there already are consistent and transparent forest carbon stock estimates for developing countries at 1km<sup>2</sup> (**Table 1**), two immediate challenges countries must overcome are:

- 1) Robust ground-based carbon estimates for major forest classes in a country
- 2) Remote sensing information that clearly show how much of particular forest classes are destroyed over what time period

If countries focus on answering these two questions, they will be able to confidently estimate their average annual carbon emissions<sup>20</sup>. This baseline rate of emissions is the 1<sup>st</sup> step in deriving a market for REDD credits. If countries lower national deforestation rates below this amount, some financial incentive, based on the value of avoided emissions, can be delivered with appropriate policy. Remote sensing will play a key role in estimating past rates of deforestation as well as in monitoring future deforestation rates.

**Leakage**

REDD is based on the notion that national levels of deforestation can be measured, reduced and financed. In this regard, it is fundamentally different than the “project-based” approach of the CDM. On a project level, there is a significant chance of leakage. If a forest in one area is conserved, other forests may be cut instead. However, REDD moves the scale of this debate to the level of countries. REDD proposed to measure changes in deforestation rates at the federal level.

Leakage at the national level is almost moot for two reasons. First, with ratification and enactment of the Kyoto Protocol, there is already a significant pressure for logging and agricultural operations in Annex 1 countries to export their emissions to countries with no obligations (e.g., non-Annex countries)<sup>21</sup>.

Second, if countries do indeed reduce their rates of deforestation, why should they be penalized for the behavior of other countries? International leakage is important. It must be addressed in a clear and simple manner and should start from a presumption that leakage can be measured and addressed. It is not an overwhelming obstacle. One proposal for alleviating and addressing leakage is the “stabilization fund” noted in Section 2, to provide countries with low current rates of deforestation and large forest areas incentives to maintain forest cover.

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<sup>20</sup> Deforestation often has a high-degree of inter-annual variability. This can be due to macro-economic changes but is more often due to climate and weather. For example, El Nino often has a dramatic influence on deforestation rates. It is important to use averages that encapsulate these swings.

<sup>21</sup> Niesten, E., P. Frumhoff, M. Manion, and J. Hardner. 2002.

Any policy for REDD leakage should be balanced by acknowledging existing leakage pressure from Annex to non-Annex countries, and that countries that reduce deforestation should be rewarded, even if other countries get worse.

### **Permanence**

Forest-based mitigation has often been cast as only a temporary solution. After all, if a country conserves forests in one time interval, what is to prevent it from cutting them down in the future? Pressures to deforest will always exist and forest-based mitigation is in fact, impermanent.

Importantly, some people (falsely) assume that solar panels, energy efficiency measures and retrofitting power plants yield permanent emission reductions. Nothing is further from the truth. Fossil-fuel mitigation deploys lower-carbon technologies and slightly slows the rate at which hydrocarbons are pumped out of wells, mines and deposits. No individual coal, oil, or gas molecules are permanently prevented from being dug up and converted into a greenhouse gas with mitigation.

Assume for instance, that because of climate change concerns, China stops building new coal power plants. This would have a dramatic impact on emissions for decades to come. But it would not create any permanent emission reductions. The greenhouse gases that would have been mined for China's coal plants could still be mined for some other country, or even by China itself if at some alter date if it decides to again extract and burn the coal.

Many of the REDD policy options have thought about permanence. For instance, several commercial funds are proposing to keep a certain amount of emission reductions (e.g., 10-20%) in a separate buffer fund, in case some forests are protected and credited, only to be deforested in the future. Other ideas are to require insurance, to distribute liability for lost emissions, and to require on-going monitoring and immediate penalties for reversals.

### **Carbon Economics & Forests in Developing Countries**

The field of carbon forest economics is fast emerging as an important area of study. Early research carried out in Madagascar in 2000 showed carbon finance can allow pareto optimal outcomes for a variety of stakeholders and lead to substantial new forest conservation investments<sup>22</sup>. With even a low carbon price (a few dollars per ton of carbon), could help national governments, local governments and the global economy realize significant gains beyond the current conditions where there is no financial incentive to stem deforestation.

Other studies have shown LAC countries can realize significant financial gains with a real REDD carbon market if they can slow modest amounts of deforestation. **Table 2** reports results of a study demonstrating that with reductions of 10-25% in deforestation rates, LAC countries would see considerable net national economic benefits.

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<sup>22</sup> Kremen, C. et al. 2000. Science 288: 1828-1832.

**Table 2. Potential Net Present Value of REDD credits from 2003-2012<sup>23</sup>**

<b>Countries</b>	<b>Deforestation halted (1000 ha/yr)</b>	<b>Carbon over 2003- 2012 (M t C)</b>	<b>Net present value 2003-2012 (\$ million)</b>
Bolivia	116.2	133.6	\$1018.4
Brazil	383.1	603.4	\$4598.4
Colombia	52.4	52.4	\$399.3
Costa Rica	10.3	11.3	\$85.9
Ecuador	75.6	68.8	\$173.9
Guatemala	12.3	22.8	\$524.3
Guyana	0.5	0.6	\$4.3
Honduras	20.4	10.7	\$81.6
Mexico	50.8	38.1	\$290.4
Nicaragua	7.6	8.9	\$67.6
Panama	12.8	20.6	\$157.1
Paraguay	65.4	65.4	\$498.4
Peru	10.9	10.4	\$79.4
Venezuela	50.3	50.3	\$383.3
<b>Subtotal</b>	<b>868.4</b>	<b>1097.3</b>	<b>\$8,362.3</b>

<sup>23</sup> Niles et al. 2002. Philosophical Transactions of the Royal Society (1797).

## 4. ON-GOING AND PLANNED REDD INITIATIVES

Several new and exciting REDD initiatives have been recently proposed. An approximately reverse-chronological (most recent at top) list of these initiatives is below:

### **Two private firms announce \$200 million - \$1 billion for forest carbon credits<sup>24</sup>**

Sustainable Forest Management (SFM) and Credit Suisse announce a \$200 million financial vehicle to develop voluntary forest-based offsets. Credit Suisse will be able to sell and market the carbon assets, while SFM will control other assets and revenue streams, through timber and other activities.

### **Three Indonesian Governors Announce Measures, Seek Carbon Finance<sup>25</sup>**

Governors from Aceh, Papua, and Papua Barat announced on April 26, 2007, that they would institute logging bans and other forest conservation measures, effective immediately. Governor Irwandi (Aceh) announced a six-month ban on logging and new measures to restrict future logging. He noted that carbon finance can help transform a temporary ban into a new sustainable development example. Governors Suebu and Artururi (Papua and Papua Barat) also made a direct appeal for carbon finance and proposed first steps they would take to reign in deforestation and carbon emissions.

### **Government of Australia<sup>26</sup>**

On March 29<sup>th</sup>, 2007, the government of Australia announced \$200 million Australian for initiatives to reduce deforestation and carbon emission in South East Asia, notably in Indonesia. Details of how the fund will work are not yet public and there is continued speculation about whether some of the money will be channeled through the World Bank's proposed Forest Carbon Partnership Facility.

### **Forest Carbon Partnership Facility<sup>27</sup>**

The World Bank is creating a Forest Carbon Partnership Facility (FCPF) for performance-based payments for reduction in carbon emissions through avoided deforestation, including reduction in forest burning, logging, conversion and other forest degradation. The facility aims to have \$200 million for REDD activities and an additional \$50 million for capacity building. With this, the Bank anticipates reducing CO<sub>2</sub> emissions by 40 million tons over a five-year span<sup>28</sup>. The FCPF is part of a new Global Forest Alliance. The FCPF will operate outside of the CDM, as a pilot facility to develop and test REDD tools and methodologies, build capacity, and enable future large-scale programs of market-based incentives for REDD. It will be built upon the concept that project-based emissions reductions must be tied in with a national policy and approach to REDD activities and measured against national baseline (deforestation) rates.

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<sup>24</sup> [http://www.hedgeweek.com/articles/detail.jsp?content\\_id=104603](http://www.hedgeweek.com/articles/detail.jsp?content_id=104603)

<sup>25</sup> <http://www.ens-newswire.com/ens/apr2007/2007-04-27-01.asp>

<sup>26</sup> <http://www.iht.com/articles/2007/03/29/news/forest.php>

<sup>27</sup> <http://carbonfinance.org/>

<sup>28</sup> A figure the World Bank suggests corresponds to roughly 100,000 hectares

The FCPF will adapt its activities to evolving UNFCCC REDD rules, so activities undertaken can be recognized and credited. The FCPF will have two major mechanisms:

1) **Readiness Mechanism.** This is a capacity-building mechanism which will help 20-30 countries prepare for engagement in REDD activities, to take advantage of present or future system of incentive payments. It will help countries

- Calculate national forest carbon stocks
- Identify sources and levels of forest emissions
- Calculate opportunity costs of REDD activities
- Devise a national REDD strategy

Specifically, it will provide technology transfer, technological assistance and financial aid to countries to help implement necessary policies, overcome initial investment costs, and access incentive payment opportunities.

2) **Carbon Finance Mechanism.** This mechanism will work with roughly five countries to develop pilot incentive payment programs for REDD activities, and will ultimately provide payment for reduction of emissions from deforestation below the baseline scenario. The countries involved in this mechanism will be identified as having demonstrated commitment to reducing deforestation, and will already have established baseline scenarios of emissions from deforestation. No payments, outside of those defined in the “readiness” mechanism, will be made to countries that fail to achieve deforestation rates below their baseline.

The FCPF will use a cross-sectoral approach to reducing deforestation. Activities that directly or indirectly address the causes of deforestation will be supported, including:

- Provision of sustainable alternatives to deforestation, by linking forest protection with the improved management of existing farms, pastures, and agroforests;
- Promotion of secure land and forest rights;
- Promotion of sound fire management practices;
- Promotion of sustainable forest management practices and certification; and
- Better enforcement of regulations and reducing illegal logging.

The proposed general flow of progress within the Facility is:

1. Upon joining the Facility as seller/recipient, the selling country pledges a certain number of tons of carbon that it will conserve through REDD programs, which are additional compared to a reference scenario. The selling country signs an Emission Reductions Purchase Agreement (ERPA) with the World Bank acting as trustee of the Facility.
2. Upon joining the Facility as buyer/donor, the buying country signs a Participation Agreement with the trustee whereby the country pledges a certain amount of money based on the volume and a negotiated fair price per ton. This Participation Agreement could also provide that the buying country will fund the “readiness” mechanism of the Facility.
3. The “readiness” money is invested in policy measures and projects in the selling country, together with some advance on the carbon contract and other monies from traditional sources such as the host country’s own resources, loans from the



International Bank for Reconstruction and Development (IBRD) and other lenders, credits from the International Development Association (IDA) and other sources of official development assistance (ODA), grants from the Global Environment Facility (GEF), equity investments and loans from the International Finance Corporation (IFC), and other public and private sources of finance.

4. The selling country implements the planned policy measures and projects, which together deliver their benefits in terms of tons of reduced emissions from deforestation and degradation. These emission reductions are verified independently.
5. These tons are delivered to the Facility.
6. The unit price agreed upon in the ERPA, minus any advance payment, is paid to the selling country for each ton independently verified and delivered.

### **Madagascar Andasibe-Mantadia BioCarbon Fund Project<sup>29</sup>**

This project has the largest “avoided deforestation” component in the World Bank’s Carbon Finance Unit portfolio. It also has been submitted to the CDM for project approval of its reforestation component<sup>30</sup>. It has 3 components:

- 1) Restoring forest corridors between three protected areas;
- 2) Establishing sustainable forest and fruit gardens around the reserve;
- 3) Protecting 80,000 ha of forest situated between National Park fragments.

The project is part of a \$150 million conservation program in Madagascar, supported by major environmental organizations, governments and the Global Environmental Facility. The avoided deforestation component of this project aims to protect 80,000 ha of forest, which could generate up to 4 Mt CO<sub>2</sub>e of non-Kyoto-compliant emission reductions by 2017. This translates into, on average, 50 CO<sub>2</sub> tons saved per hectare, or 13.6 Carbon tons saved per hectare.

The project will help secure many other socio-economic and environmental co-benefits. Two of the main risks include leakage and permanence. There is potential for leakage, since the conservation of forestland may simply push extraction efforts over to nearby unprotected forestland. In response, the project is establishing fuel wood plantations and fruit gardens to provide alternative sources of local revenue. Illegal logging and natural disasters like fire pose a risk to long-term success of the project. To address this, the project promotes involvement of local authorities, the Forestry Service, village committees and farmers associations. The project promotes measures to reduce the risk of fires and encourages agricultural practices that reduce fire risk.

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<sup>29</sup>[//carbonfinance.org/Router.cfm?Page=BioCF&FID=9708&ItemID=9708&ft=Projects&ProjID=9638](http://carbonfinance.org/Router.cfm?Page=BioCF&FID=9708&ItemID=9708&ft=Projects&ProjID=9638)

<sup>30</sup> Check this.

## 5. REDD OPPORTUNITIES FOR THE IDB

There are three key areas of opportunity that IDB can cultivate to become a leader in REDD. These include strategic capacity work, new financial tools, and mainstreaming REDD into on-going IDB practices and operations.

### OPPORTUNITY 1. STRATEGIC CAPACITY WORK

IDB's capacity work should help LAC countries leapfrog over obstacles and other regions to develop key early-market REDD signals and technical competence. A variety of financial instruments are being raised for "readiness" and capacity building. With targeted IDB assistance, LAC countries can better access these emerging capacity funds and maximize the impacts of capacity work. Areas likely to be strategic are:

#### 1) Develop **Reference Emissions Scenarios**

- a. Develop robust transparent, credible and quantitative reference emission scenarios (baselines) from deforestation in LAC countries.
- b. This would entail two concerted and coordinated work products; one with remote sensing and one with forest inventory work. A common forest classification system should be used in each country.

IDB should not invest in writing a protocol to estimate emission; instead, it should design a process that results in national deforestation emission estimates.

#### 2) Develop **National Instruments** for Reducing Deforestation & Degradation

- a. Legal and policy region-wide surveys and studies
- b. Civil society outreach and expertise.
- c. Research into past policies and national actions that have been effective at stopping deforestation.

#### 3) Help LAC Countries Develop **Robust Monitoring Systems**

- a. IDB can help LAC countries develop and deploy coordinated satellite, plane-based and ground-based forest monitoring systems. The goal would be to help LAC countries achieve 'real-time' forest monitoring and response systems.
- b. Brazil already has a world-class forest monitoring program. IDB could help Brazil share this information and technological capacity with other countries.

#### 4) Help LAC Countries **Interact with Global Markets** and **UNFCCC Negotiations** from a Position of Strength

- a. Assist with legal and contract capacity
- b. Educate DNAs and other governmental ministries about REDD
- c. Provide template contracts, provide market analyses and political analyses
- d. Coordinate negotiating sessions before key decisions

### OPPORTUNITY 2. DEVELOP INNOVATIVE REDD FINANCIAL TOOLS & INSTRUMENTS

There are several finance tools IDB can support that would enable reductions in deforestation to be recognized and rewarded. These include

#### 1) IDB REDD **Fund or Mechanism**

IDB can create a fund or mechanism for reducing deforestation at national or regional scales. IDB could identify a niche not being filled by other early movers. IDB could explore ways to make its REDD carbon fund have specific cultural or biological characteristics and advantages. For instance, it could prioritize offering sustainable

development alternatives to indigenous communities being faced with deforestation and livelihood declines. This fund could be market (regulatory credits) or non-market. Market options include Kyoto derived credits or credits in other regulatory spheres (California, EU ETS, etc). Non-market options include the voluntary market, ODA funds and others such as the Chicago Climate Exchange. With any REDD fund, IDB would help identify buyers and sellers, pool projects, combine risks and rewards, develop standard rules, and lower transaction costs.

## **2) Other REDD Financial Tools**

IDB can also develop stand-alone financial tools that allow REDD activities to succeed, without building a new fund or financial mechanism. For instance, REDD policies are likely to require some portion of REDD credits be kept in escrow in case of reversal (to address permanence concerns). IDB would help LAC countries considerably by developing new buffer and escrow instruments – making money while insuring for reversals or impermanence and giving REDD markets confidence and stability. Such a tool could be modeled after traditional insurance or take a more innovative approach (such as using escrow funds to re-invest in other GHG emission reduction activities). IDB can also explore bundling or co-finance opportunities such as payments for ecosystem services.

Importantly, there is already a clear mandate within the SECCI program to work on carbon finance. This is one area where there may be less institutional planning to do to get a system up and running. Financial tools developed under SECCI for REDD will also benefit from work done in other (e.g., energy, transport) sectors.

### **OPPORTUNITY 3. MAINSTREAM REDD INTO IDB INVESTMENTS AND POLICIES**

IDB has a clear opportunity to bring REDD into its normal business operations. This can be done in two principle ways:

#### **1) Sectoral Policies and Lending: Agriculture and Infrastructure**

The two most relevant sectors for creating reductions in deforestation trends are agricultural and infrastructure.

Agricultural expansion is a key driver of deforestation. IDB could begin engaging industries, government and others in devising creative ways to allow agriculture to expand and sustain, while not going into primary forests. Assistance could be provided for establishing and supporting improved crop yields from degraded lands. Structuring REDD financing around less-destructive agricultural policies is a natural area for a multi-lateral to focus. Within the agricultural sector, several LAC countries have deforestation driven by illegal activities, principally narcotics. New agricultural programs could be developed and funded through IDB loans that lower deforestation, fight drugs, and promote national security.

Infrastructure is also a major root cause of deforestation. IDB can explore novel ways to plan, design and manage large infrastructure projects and national infrastructure needs. Any innovations that lead to declines in national deforestation rates will help countries achieve sustainable development in two ways. First, environmentally-intelligent infrastructure will lower environmental

and ecosystem costs associated with traditional infrastructure. Examples include maintained local hydrological conditions, soil conservation, lower air pollution and associated health costs, higher water quality, and a myriad of other cost-saving benefits. Second, such low-impact infrastructure could improve LAC finances through REDD credits. If improved infrastructure planning lowers national rates of deforestation and there is a robust REDD carbon credit market, countries would realize potential fiscal gains from the sale of such credits.

## **2) Policy-Based Lending**

Deforestation in some circumstances can be addressed with new national policies and enforcement. National tax, land use, forest and other policies have clear impacts on rates of deforestation (both causing more and causing less deforestation). Policy-based lending program can promote unified cross-sectoral solutions to deforestation and may be a valuable and relatively quick way to lower national deforestation rates. A policy-based lending approach to deforestation could entail institutional strengthening and cooperation in forest, finance, police, and national planning departments and ministries. Various measures could be developed in different ministries to make it uniformly harder or more expensive to deforest illegally or legally. Planning for transportation and energy systems could be re-engineered to minimize forest cover loss. Tax codes and other fiscal and regulatory rules could be developed that work in concert to make it less attractive to deforest and more attractive to maintain forests.

Policy-based lending tools are also relatively fast IBD instruments. They can be deployed quickly and are designed for specific national circumstances. This is critical, since deforestation is highly-variable and often has important national components, drivers and attributes.

## **Conclusion**

In summary, the IDB has clear opportunities to use the emerging concept of REDD to improve LAC countries' fiscal and environmental health. IDB has a long history of working with LAC countries to build and share capacity on various issues. REDD, as a relatively new idea with demanding scientific and technical dimensions, is an area where targeted IDB capacity support could produce considerable returns.

For carbon finance, the SECCI initiative has been green-lighted to proceed and there are several obvious niches where IDB carbon finance can help LAC countries implement REDD programs. These include development of new funds or tools that provide an enabling LAC REDD environment.

Finally, REDD should be mainstreamed into ongoing IDB work. Structural policies and policy-based lending instruments can be developed to support REDD components. Of particular note, agricultural and infrastructure investments have impacts of forest cover. Modified and improved lending practices that favor low deforestation rates will provide numerous domestic benefits while providing access to the rapidly growing pool of international carbon finance.

## APPENDIX. ANNOTATED HISTORY OF REDD NEGOTIATIONS

### Pre-COP11

When nations departed Kyoto in 1997 (COP3), they left with dramatically different and unresolved questions about the role of forestry in meeting national targets. During negotiations of the Marrakesh Accords, many negotiators viewed the forestry sector with strong skepticism. This is partly due to earlier attempts by some Annex 1 countries to use domestic forestry “loopholes” to minimize their commitment levels. Many people also believe that forestry is impermanent and detracts from most important climate change policy - transitioning to a sustainable energy economy.

### COP11 (Montreal, 2005)

After negotiators decided not to include forest conservation in the CDM, the 20% of global emissions from tropical deforestation, was for a little while, almost forgotten. Then, at COP11 in Montreal in 2005, the Coalition for Rainforest Nations (CfRN) reintroduced the issue. The CfRN, which at the time was made up of nine countries, now includes 15 rainforest countries, including seven LAC countries<sup>31</sup>.

At COP11 REDD was formally put on the agenda on behalf of the CfRN by the government of Papua New Guinea. It was contained in an official document from PNG and Costa Rica to the Secretariat of the UNFCCC<sup>32</sup>. In this document, the CfRN made the following points about deforestation in developing countries:

- 1) Deforestation in developing countries accounts for a significant amount of global greenhouse gas emissions;
- 2) “The UNFCCC ... provides neither a mandate nor an incentive for reducing emissions from tropical deforestation”;
- 3) “For developing countries, there is ...no way to engage the Kyoto Protocol for emissions reductions generated through reducing ... deforestation rates”;
- 4) “In the absence of revenues streams for standing forests, communities and governments in developing nations have little incentive to prevent deforestation”;
- 5) “As developing nations, we are prepared to stand accountable for our contributions to global climate stability, provided international frameworks are appropriately modified, **namely through fair and equitable access to carbon emissions markets**”;
- 6) “Lasting climate stability will depend on the equitable expansion of the market systems initiated following the Kyoto Protocol that actively facilitate and integrate developing nation participation”.

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<sup>31</sup> Including: Central African Republic, Gabon, Democratic Republic of Congo, Republic of Congo, Dominican Republic, Costa Rica, Guatemala, Nicaragua, Panama, Fiji, Papua New Guinea, Solomon Islands, Vanuatu, Bolivia, and Chile. <http://www.rainforestcoalition.org/eng/countries/index.php>, viewed November 2006. (UPDATE)

<sup>32</sup> FCCC/CP/11/Misc 1 (check document #).

In essence, the CfRN proposed to expand the Kyoto Protocol to include carbon credits for developing countries that reduce their rates of deforestation. It suggested two possible avenues for deliberations: 1) modifying the current Kyoto Protocol, or 2) devising a new optional “protocol”. Under either of these approaches, countries that reduce their deforestation rates could sell carbon credits equal to the amount of avoided emissions. The Coalition has maintained that any so-called REDD carbon credits should be fungible with other Kyoto-derived credits.

To many peoples’ surprise, Parties to COP11 approved the main components of the CfRN proposal with slight modifications<sup>33</sup>. (One important change was that the timeline for debating REDD policy was extended from a one-year process to a two-year process.) In general, the REDD concept advanced by the CfRN was greeted with enthusiasm and goodwill. Parties formally agreed to a timeline for dialogue. COP11 asked Parties, the UNFCCC Secretariat and the Subsidiary Body for Scientific and Technical Advice (SBSTA) to dig deeper into the issue and to try and reach a first decision on the issue in two years time. The process was kicked off by an invitation for Parties to submit their thoughts and ideas on the issue, and a series of workshops.

#### **Subsidiary Body on Scientific and Technical Advice (SBSTA) 24**

Leading up to SBSTA 24, the UNFCCC Secretariat received a total of 21 submissions of views (formal national perspectives submitted to the United Nations) from Parties representing 68 countries, 13 submissions from NGOs, and 4 submissions from IGOs<sup>34</sup>. At the talks there was a lengthy discussion on the Terms of Reference for the upcoming Rome Workshop<sup>35</sup>. The workshop would be an opportunity for Parties to share experience and discuss relevant aspects of reducing emissions from deforestation in developing countries. SBSTA decided on specific topics to be discussed, including:

- a) Scientific, socio-economic, technical, and methodological issues
- b) Policy approaches and positive incentives
- c) Identification of links between (a) and (b) above.

#### **The Rome Workshop<sup>36</sup>**

The three day workshop was very-well attended, including an impressive 74 representatives from 42 non-Annex Parties. For the workshop, the UNFCCC Secretariat provided a set of background papers for Parties to consider in their deliberations<sup>37</sup>. The papers covered scientific and technical issues, positive incentives and policy approaches, information on the REDD topic contained in other national communications from Parties. They also provided a synthesis of information from the REDD submissions by Parties and accredited observers.<sup>38</sup>

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<sup>33</sup> FCCC/CP/2005/5, paragraphs 76-84.

<sup>34</sup> UNFCCC/SBSTA/2006 Misc 5 and ADD1.

<sup>35</sup> FCCC/SBSTA/2006/5 para 52 (a) to (c).

<sup>36</sup> [http://unfccc.int/methods\\_and\\_science/lulucf/items/3745.php](http://unfccc.int/methods_and_science/lulucf/items/3745.php)

<sup>37</sup> [http://unfccc.int/methods\\_and\\_science/lulucf/items/3757.php](http://unfccc.int/methods_and_science/lulucf/items/3757.php)

<sup>38</sup> Document

The three day workshop started with presentations<sup>39</sup> by world experts who by-and-large noted that technical, scientific and socio-economic challenges are substantial, but can be resolved. The expert presentations accentuated the rapid pace of progress over the past decade in estimating carbon in biomass and biomass change (notably in the areas of allometry, forest inventories, and satellite imagery). Several presentations noted new technologies and standards that will help drive down the costs of estimating and monitoring carbon stocks and fluxes. Since there is still no widely-accepted satellite system to directly estimate forest biomass and carbon, several presentations noted a need to link space-based information (from satellites and planes) with ground-based (inventory and allometry) information. Forest degradation was also a research area where more work is needed. In Rome, there was a sense that “things are possible” even if some key operational details for a REDD proposal are still being debated.

The second day of the Rome workshop was spent hearing country experiences and opinions from Parties<sup>40</sup>. Parties from Latin America, the United States, Europe, Africa, and Asia spoke about the lessons they’ve learned from previous efforts to control deforestation in their lands.

Parties gave opinions about policy options and other items related to policy needs and developments. Many developing countries emphasized the critical need for early and robust capacity building on REDD. **Tuvalu** suggested leakage and other concerns about REDD limit the effectiveness of it as a tool to fight climate change. **Costa Rica** gave an overview of its successful payment for ecosystem service program that contributed to a dramatic reversal in country-wide deforestation. **Papua New Guinea** said that multiple policy options exist, each with its own attributes and said new Annexes to the Kyoto Protocol could be one way forward – for example by developing countries taking on a voluntary national sectoral target for deforestation in their countries. **PNG** also supported credit for early action and urged that policy discussions move forward rapidly.

**Brazil** presented new ideas on possible funds to reward countries that demonstrate sustained reductions in national rates of deforestation. Brazil noted that reference scenarios and additionality can be designed for changes in forest carbon. It proposed that any incentives of payments would be based on the amount of demonstrated avoided emissions. **Brazil** remained opposed to using REDD credits for Annex 1 commitments; most other **Latin American** countries supported market-access for REDD credits.

The Rome meeting resulted in UNFCCC Secretariat’s summary of the workshop<sup>41</sup>, which outlined the key ideas and discussions that had emerged during the workshop. The report noted procedural steps that could be taken to strengthen the REDD dialogue. These included additional workshops, more submissions, other papers and continuing the political discussion in relevant upcoming meetings. This summary was forwarded to SBSTA 25 for consideration during COP12 in Nairobi.

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<sup>39</sup> [http://unfccc.int/methods\\_and\\_science/lulucf/items/3764.php](http://unfccc.int/methods_and_science/lulucf/items/3764.php)

<sup>40</sup> Copies of these presentation can also be found at the above website

<sup>41</sup> FCCC/SBSTA/2006/10

## **COP12 & SBSTA 25 (Nairobi, 2006)**

Based on the Rome workshop report, parties at SBSTA 25 took up the REDD issue again. At SBSTA Parties agreed to a series of conclusions<sup>42</sup>:

- 1) There would be a 2<sup>nd</sup> REDD workshop before SBSTA 26, to focus on policy approaches as well as other topics;
- 2) A second round of submissions by Parties on REDD topics, due to the secretariat no later than February 23, 2006;
- 3) A voluntary call for new information from non-Annex Parties to update their information on emissions and trends in deforestation, data needs, policies and programs and root causes of deforestation;
- 4) The next SBSTA meeting (SBSTA 26) could consider the need for background papers, a third workshop or other meetings and consultations.

In short, SBSTA 25 recognized that more concerted technical and diplomatic work would be needed to develop a successful REDD component to international climate change policy.

Other REDD developments in Nairobi included in the Ad-Hoc Working Group (AWG), **Brazil** released a paper explaining more of its REDD proposal. Brazil noted that it envisioned the discussion for REDD would occur only in the UNFCCC, and not the Kyoto Protocol. It re-stated its position that no new Annex would be allowed under the Kyoto Protocol to allow credits from REDD to be used by Annex 1 Parties to meet their Kyoto obligations. The **Brazil** proposal focused on a new fund to provide financing, capacity and technologies for countries that voluntarily reduce deforestation GHG emissions from a reference emission rate.

## **Cairns Workshop<sup>43</sup>**

The Secretariat received a second round of REDD submissions by Parties<sup>44</sup>, Intergovernmental Organizations<sup>45</sup> and non-governmental organizations<sup>46</sup>. The government of Australia hosted a three day workshop (March 7 to 9, 2007 in Cairns). A Chair's summary of the workshop is available<sup>47</sup> as are presentations from the meeting<sup>48</sup>. Presentations by FAO, IPCC, Australia's National Carbon Accounting System (NCAS), GTZ, The Carbon Pool, CIFOR, the World Bank and others were made.

Countries also presented their views on a range of topics. Of particular note, **India** introduced a proposed carbon conservation mechanism, the **Congo Basin** and **Costa Rica** supported a stabilization fund and early action, **Europe** supported early action before 2012, Brazil elaborated on its REDD proposal and **PNG** reiterated its belief in a basket of

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<sup>42</sup> FCCC/SBSTA/2006/11, paras 86-92.

<sup>43</sup> [http://unfccc.int/methods\\_and\\_science/lulucf/items/3896.php](http://unfccc.int/methods_and_science/lulucf/items/3896.php)

<sup>44</sup> FCCC/SBSTA/2007/Misc 2 and Add 1.

<sup>45</sup> FCCC/SBSTA/2007/Misc 3

<sup>46</sup> [http://unfccc.int/parties\\_and\\_observers/ngo/items/3689.php](http://unfccc.int/parties_and_observers/ngo/items/3689.php)

<sup>47</sup> FCCC/SBSTA/2007/3 Report on the second workshop on reducing emissions from deforestation in developing countries

<sup>48</sup> [http://unfccc.int/methods\\_and\\_science/lulucf/items/3918.php](http://unfccc.int/methods_and_science/lulucf/items/3918.php)



carbon funds (market and non-market) including an enabling fund, a stabilization fund, and a REDD mechanism to deliver fully-fungible credits.

Participants **converged** on a few key areas of common ground:

- 1) Early action to reduce emissions from deforestation in developing countries is essential for battling climate change effectively;
- 2) Technical challenges to establishing reference emissions scenarios can be met;
- 3) Capacity developments should be addressed as soon as possible;
- 4) COP13 can take a variety of decisions that could be initiated immediately.

Two key **differences** at the end of the Cairns workshop remained:

- 1) Whether REDD credits could be used by Annex 1 Parties in meeting future commitments (there was agreement that REDD credits would not enter the Kyoto Protocol's 1<sup>st</sup> commitment period).
- 2) Whether a variety of funds or mechanisms (carbon conservation and stabilization) should be employed or simply ones that reduce emissions from deforestation.

The meeting ended with contemplating possible policy procedures. A chair's text was drafted and sent to the Secretariat for reporting at SBSTA 26, with a few concepts:

- No new element should be introduced
- The widest possible participation of countries should be encouraged through a variety of engagements and approaches
- Early action on capacity building and pilot testing are needed.

### **SBSTA 26**

SBSTA 26 was the last chance for reaching agreements in formal sessions before COP13. It did not deliver an agreement, but ended up producing a draft decision with 21 sets of brackets<sup>49</sup>. Where does that leave the process and what might happen at COP13 remain unknown. What is clear is that serious issues have been forwarded to COP13 and SBSTA 27 for decision. These include:

- A series of timelines for possible decision making
- Solutions for reference emissions scenarios for REDD
- Including REDD in discussion about future commitment periods
- Pilot-activities and early action.

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<sup>49</sup> <http://unfccc.int/resource/docs/2007/sbsta/eng/110.pdf>