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Back to its roots: REDD+ via the Copenhagen Accord

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Back to its Roots: REDD+ via the Copenhagen Accord

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Although it may be easy to forget, forests affect everyone. Forests, particularly in the tropics, provide a home for millions of people, support 80% of the world's terrestrial biodiversity, and drive many of the earth's local and global climatic and hydrological cycles. Forests also seriously contribute to climate change when they are cut down. In fact, deforestation and forest degradation activities emit more carbon dioxide into the atmosphere than the entire global transportation sector. Unfortunately, the increasing demand for agriculture and timber products, among others, requires the land that forests occupy, which in turn drives deforestation. This especially rings true in developing countries, where land-use changes are often associated with economic development. Recognizing the crucial role that trees play in climate change mitigation, in 2009 the international community presented the Copenhagen Accord at the 15th session of the Conference of Parties (the decision-making body of the United Nations Convention on Climate Change). A large portion of the Accord emphasizes Reducing Emissions from Deforestation and Forest Degradation (REDD+) as a viable climate change mitigation strategy. The concept of REDD+ is simple: developed countries, as the main emitters of greenhouse gases, will provide financial incentives to developing countries to keep their forests standing. REDD+ attempts to give an economic value to the carbon stored within the biomass of trees. This article aims to give an overview of the issues that surround deforestation in developing countries, the history of the REDD+ solution, current initiatives that support it, and a suggestion for a phased-implementation approach that will ensure that REDD+ is financially feasible in the long-term. REDD+ has the potential to be the most rapid and cost-effective solution in the fight to mitigate climate change. If implemented, REDD+ will have impacts that reach beyond reducing carbon dioxide emissions: ultimately, REDD+ provides an economic solution for enhancing the sustainable growth of developing countries.

Keywords: REDD+, Copenhagen Accord, deforestation, climate change, UNFCCC

But First, the Problem

Although rarely acknowledged in day-to-day discussions surrounding climate change, deforestation activities emit more carbon dioxide into the atmosphere than the entire global transportation sector. Unless developing countries have economic incentives to

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keep their trees standing, forests, along with the future quality of life for all who depend on them, will continue to fall.

In many ways, the fates of developing and developed nations are unequivocally intertwined. Forests play a key role in this relationship. While local people also depend on forests for food, shelter, clean water, and climate regulation, trees and the land they occupy have a higher market value when cut down. On a global level, deforestation and forest degradation seriously contribute to climate change. For the developing world, climate change presents a particularly paradoxical dilemma. Mitigation strategies rest solely on the world's ability to curb its greenhouse gas emissions. Yet at the moment, global economic progress still hinges on the continued extraction of the planet's natural resources. Forests, predominantly tropical forests, are among the most valuable of these resources. The vast majority of these are found in developing countries. Rising global demand for palm oil, agriculture, timber, mining, and beef has accelerated the rate of deforestation (UNFCCC, 2007) because the land that forests occupy is currently more economically valuable than the trees themselves. While some of the agricultural activities are for local purposes, most of the demand originates from developed countries. The loss of forests has serious implications for biodiversity and the irreplaceable medicinal knowledge it provides, local and global climatic and hydrological processes, and the survival of indigenous communities. These ecosystem services, although not currently defined monetarily, are irreplaceable. Even worse, in the long run, most of these land-use changes are not sustainable. Because the nutrients found in rainforest soil occur mainly in the top layer, once deforested, the land is very susceptible to erosion and thus cannot sustain crops or cattle for very long. These realities hold tremendous implications for communities in developing countries, who turn to deforestation to improve their quality of life. The small economic improvements associated with clearing land simply will not last, and come at a terrible and largely irreversible price: a lack of clean water and food, the disruption of the local and global climatic system, the loss of biodiversity, and the potential for new medicine. Yet, tropical forests are currently disappearing at a rate of 13.77 million hectares per year—which equates to over 31 million football fields of rainforest². Meanwhile, industrialized countries search for ways to continue along their current development pathway. Although some countries have begun to offset their harmful emission byproducts in the process, more must be done. Both parties must cooperate to reduce global greenhouse gas emissions, but neither is willing to sacrifice their economic growth.

But what if a monetary value could be given to trees? Reducing Emissions from Deforestation and Forest Degradation (REDD+) aims to do just that. The general concept is simple: developed countries pay developing countries to keep their forests standing in exchange for the preservation of the carbon stock (i.e. the tree), which would count as a viable method of offsetting industrial emissions. This paper intends to provide an overview of the problem REDD+ aims to address, as well as a description of its foundation within the Copenhagen Accord and its evolution before and after. We will conclude by briefly proposing a phased implementation strategy for the future.

How Forests Contribute to Climate Change

So, why exactly do we want to reduce CO² emissions from deforestation and forest degradation?

² See (<http://www.nature.org/rainforests/explore/facts.html>) for more information

In order to understand the REDD+ initiative, it is important to first understand the relationship between deforestation and forest degradation, carbon dioxide (CO²) emissions, and climate change. Since the onset of the industrial revolution, the concentration of greenhouse gases in the atmosphere, particularly CO², has increased exponentially due to anthropogenic activities such as the burning of fossil fuel and land-use changes. This accumulation has caused a significant increase in global temperatures within a short period of time. According to the Intergovernmental Panel on Climate Change (IPCC, 2007), keeping levels of CO² below 490-540 parts per million³ (ppm) is necessary in order to prevent global temperatures from ever increasing above 2° Celsius.⁴ At present, atmospheric CO² levels are approximately 385 ppm; scientific literature shows that preindustrial concentrations never exceeded 300 ppm (IPCC, 2007).

Deforestation and forest degradation contribute approximately 17% of total global greenhouse gas emissions—the third largest anthropogenic⁵ source of greenhouse gas emissions and the second largest source of CO² emissions (Pachauri & Reisinger, 2007). In fact, deforestation emits more CO² into the atmosphere than the entire global transport sector. But how? Forests sequester CO² via photosynthesis, converting it into energy and carbon biomass. This process not only removes CO² from the atmosphere, but also allows for its long-term storage—an ability that many companies are currently trying to replicate through the development of expensive new technologies. Deforestation, or the clearing of forested land, and forest degradation, or the gradual loss of tree crown cover, not only hinders trees' natural absorption of atmospheric CO², but also releases carbon stored in tree biomass back into the atmosphere—a two-fold problem for climate change alone. By 2100, deforestation and forest degradation alone will contribute an additional 30 ppm of CO² to the atmosphere if business as usual scenarios continue (Eliasch, 2008). It is therefore imperative that any effective action towards mitigating global climate change fundamentally address deforestation and forest degradation.

In December 2009, the 15th session of the Conference of Parties (COP)—the decision-making body of the United Nations Framework Convention on Climate Change (UNFCCC)—emphasized the provision of positive incentives to reduce greenhouse gas emissions from deforestation and forest degradation in the Copenhagen Accord. Recognizing the important role that forests play in climate change, this provision, in the form of REDD+, would serve as a mechanism whereby developed countries provide financial incentives to developing countries to compel them to conserve rather than exploit their forests. Specifically, REDD+ aims to reduce these emissions by maintaining standing forests, enhancing forest carbon stocks, and improving forest management. Though all forests are important, REDD+ is specifically targeted toward tropical forests. Nearly 77% of global deforestation occurs in tropical regions (FAO, 2007), which accounts for 95% of all forestry-related greenhouse gas emissions (Eliasch, 2008).

³ This is a way of expressing very dilute concentrations of substances. Similar to the way percent means “out of a hundred,” parts per million (ppm) means out of a million. For example, four drops of ink in a 55-gallon barrel of water would produce an “ink concentration” of 1 ppm (<http://www.nysefc.org/home/index.asp>). Small amounts of carbon dioxide can drastically affect the climate. Measuring carbon in ppm is useful when making quick comparisons regarding the various levels of ppm throughout history, creating reduction targets, and measuring carbon emissions.

⁴ Equivalent to 3.6° Fahrenheit. Temperatures above an increase of 2° Celsius would exceed any temperature range experienced by human beings thus far.

⁵ Human-caused.

Additionally, tropical forests sequester approximately twice the amount of carbon per hectare as temperate forests. Since tropical forests are found almost exclusively in developing countries, REDD+ will primarily function as an instrument that offsets CO² emissions via the transfer of compensatory funds from developed to developing nations.

What the Accord Says

Much has been written about REDD+ since December 2009. But the role of the Copenhagen Accord is often overlooked.

The Copenhagen Accord is arguably the sole achievement to come out of the United Nations Climate Change Conference 2009 in Copenhagen (COP 15). Signed by 114 nations amidst much disagreement regarding other matters on the agenda, it provides a testament to the endurance and importance of forest-based solutions to climate change. Though voluntary and non-legally binding, the Accord acknowledges the critical role that REDD+ initiatives must play in reducing CO² emissions to maintain global temperature increases below 2° Celsius. Although lacking the specificity of the Kyoto Protocol, the Copenhagen Accord set the stage for what has the potential to yield the only globally successful effort to decelerate the alarming rate of deforestation.

Fundamentally, the Copenhagen Accord provides a broad framework from which a comprehensive program for REDD+ can be designed and implemented. As an effective financial component is essential to the forward momentum of any program, one of the Accord's crucial decisions was the creation of the Copenhagen Green Climate Fund, which aims to serve as the operating financial entity of all UNFCCC climate action, including REDD+. Developed nations who signed the Accord committed to providing resources approaching 30 billion USD for the 2010-2012 period (UNFCCC, 2009). Additionally, they pledged to mobilize 100 billion USD by 2020 to provide vital support to developing nations, with priority given to the least developed nations and Small Island Developing States (UNFCCC, 2009). These funds will support the capacity building and technology transfer necessary to support REDD+ and other climate mitigation and adaptation strategies sponsored by the UNFCCC.

Significantly, the Copenhagen Accord also identifies the importance of cooperative action in the form of “common but differentiated responsibilities” between developing and developed countries (COP 2009). From a development perspective, this provides a crucial incentive to developing nations, as it places the responsibility on the developed nations, the chief emitters, which are expected to compensate the developing world for not destroying or degrading their forests. If successful, this mitigation strategy has the potential to positively affect both developing and developed nations—both from an economic and climate change perspective. More broadly, by preserving tropical forests, REDD+ initiatives will simultaneously conserve the ecosystem services, such as biodiversity and hydrological processes that the whole world relies on—especially on the local level and thus in developing nations. In this way, REDD+ provides an alternative approach to traditional development strategies.

From Whence it Came (Pluses and Minuses Alike)

The international community has known about the detrimental effects of deforestation for years. So why has it taken this long for global cooperation?

The short answer: because the fate of forests lies within the larger issue of climate change. The first international effort to address global warming came to fruition in 1992, when the United Nations Conference on Environment and Development, informally known as the Earth Summit, established the UNFCCC as a body responsible for promoting the stabilization of greenhouse gas emissions at levels that will mitigate further anthropogenic interference with the world's climate system. Its main decision-making body, the Conference of Parties (COP), annually reviews the work of the UNFCCC. At its third meeting in 1997 in Kyoto, the COP adopted the Kyoto Protocol, a legally binding international treaty aimed at reducing the signatories' greenhouse gas emissions by 5.2% below 1990 levels. The Kyoto Protocol requires that 37 industrialized countries and the European Union reduce their greenhouse gas emissions over the five-year period from 2008-2012.

Over many sessions of the COP, REDD+ has evolved from two previous forms: Reducing Emissions from Deforestation (RED) and Reducing Emissions from Deforestation and Forest Degradation (REDD). The seeds of the concept were planted in the Kyoto Protocol, but were not included due to the high possibility of carbon market leakage, the unfortunate trend where halting deforestation in one area simply shifts deforestation activities elsewhere (Mongabay, 2008). At the 2005 COP 11 in Montreal, RED was put back on the agenda by Costa Rica and Papua New Guinea, on behalf of the Coalition for Rainforest Nations.⁶ They proposed to give developing countries access to a potential carbon market through credits generated from reducing emissions from deforestation and forest degradation activities. The main idea behind this initiative was that developed nations would provide incentives to developing nations to keep their forests standing. Eventually, this carbon's worth would evolve to be equal to or greater than profits from logging, monoculture plantations, agriculture, etc. In 2007, at COP 13 in Bali, the Bali Action Plan was adopted to focus discussions on reaching a new binding agreement by 2010, before the expiration of the Kyoto Protocol in 2012. The extra "D" in REDD, signifying forest degradation, was added to address problems of overgrazing and the degrading effects of deforestation on remaining forest systems. The Bali Action Plan marked an important crossroads for REDD, as it called for "the needs of local and indigenous communities" to be addressed, as well as "the role of conservation, sustainable management of forests and enhancement of forest carbon stocks," two phrases that transformed REDD into REDD+ (Carbon Planet, 2009, p.14).

While support for efforts to reduce emissions from deforestation and forest degradation has been expressed at the highest political levels (such as the Group of 8⁷ and the United Nations General Assembly), cohesive actions towards accomplishing REDD+ goals at the international level have proven to be elusive. At COP 13 in Bali, the Parties agreed that a REDD mechanism should be incorporated into the post-Kyoto agreement, and the design and infrastructure were supposed to have been developed by the 2009 UNFCCC meeting in Denmark. Coming to a consensus on what the REDD mechanism should look like has been extremely complicated. Although reducing deforestation is important for all nations, in the short term, developing countries voice very real concerns regarding the effects of its implementation: protecting forests has the potential to negatively impact national economic growth and reduce national sovereignty.

⁶ Participating countries include: Bangladesh, Central African Republic, Cameroon, Chile, Congo, Colombia, Costa Rica, DR Congo, Dominican Republic, Ecuador, El Salvador, Fiji, Gabon, Ghana, Guatemala, Honduras, Indonesia, Kenya, Lesotho, Malaysia, Nicaragua, Nigeria, Panama, Papua New Guinea, Paraguay, Peru, Samoa, Solomon Islands, Thailand, Uruguay, Uganda, and Vanuatu.

⁷ Canada, France, Germany, Italy, Japan, Russia, The United Kingdom, and The United States

Developing nations also fear being completely left out of future compensation mechanisms because of the terms on which these compensations have been established—particularly the requisites of the carbon market. The concerns of developed countries, on the other hand, include the high costs and questionable feasibility of meeting future emissions targets without the inclusion of REDD+ in the global climate regime (Overseas Development Institute, 2008).

Finding an appropriate funding mechanism for REDD has been another central point of discussion. While it is widely recognized that financial assistance from a voluntary fund may be more appropriate for assessing each participating country's "REDD+ readiness"—in terms of institutional capacity for monitoring, reporting, and verifying changes in emissions—market mechanisms could provide the sustained flow of financial resources necessary for an eventually self-sustainable flow of funds (Chutz, 2010). Aware of the fact that carbon markets have a long way to go before their establishment at a global level, many developing countries prefer to bargain for immediate funding rather than take commitments to reduce their main economic activities in exchange for uncertain future incomes.

Within the United Nations system, deforestation was and still is being addressed by a very complex group of actors. During the on-going process of developing a structure for REDD+, the supranational bodies are simultaneously striving to maintain their position as overseeing bodies. However, since 2008, the relevant multilateral bodies have made important efforts to create alternative structures that could guarantee a rapid start of programs to reduce emissions from deforestation and forest degradation. These programs complement the UNFCCC negotiations by demonstrating how REDD+ can be applied at the national level within potential models for a global-scale approach. Consequently, the United Nations Collaborative Program on the Reduction of Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD) was launched in 2008 and brings together the United Nations Environment Program (UNEP), the United Nations Development Program (UNDP), and the Food and Agriculture Organization (FAO). By combining the technical knowledge, institutional networks, political relations, and social capital of these three large intergovernmental bodies, the UN-REDD Program aims to establish a structure to help nations prepare for participation in a REDD mechanism (Chutz, 2010).

Despite all of the disagreements regarding different agendas amidst REDD+, urgency and political will finally saw it signed in Copenhagen. Although the Accord is considered an external document, it commits signatories to ongoing discussions regarding the definition of joint actions to address climate change. On this basis, the Copenhagen Accord presumably outlines the core of a future legislation to be adopted at the COP 16 in November-December 2010.

What's Been Happening Since?

Despite the absence of an official framework, pilot projects are underway and more supportive programs are developing.

On September 3, 2010, UN-REDD announced that five countries (Bangladesh, Bhutan, Central African Republic, Colombia, and Guatemala) had joined the Program as partner countries. Since the signing of the Copenhagen Accord, REDD+ now includes 18 partner countries and 9 pilot countries, underway in Bolivia, Democratic Republic of Congo (DRC), Indonesia, Panama, Papua New Guinea, Paraguay, United Republic of Tanzania, Vietnam, and Zambia. To date, the UN-REDD Program's Policy Board has approved a total of 42.6 million

USD for eight of the program's nine initial pilot countries (<http://www.un-redd.org>). These funds help support the development and implementation of national REDD+ strategies. National programs in four UN-REDD pilot countries (DRC, Indonesia, Tanzania and Vietnam) are now in their implementation phase (<http://www.un-redd.org>). REDD+ also recently encompassed newly initiated programs, implemented through the cooperation of national governments and partner organizations such as UNFCCC, UN-REDD, the World Bank, Wildlife Works, Terra Global Capital, PACT, and many others. Other examples of REDD+ initiative projects include the Kasigao Corridor in Kenya, the Oddar Meanchey Project in Cambodia, and the Juma Sustainable Development Project in Brazil.

Other multilateral bodies have adopted a collaborative approach to implement REDD+. For example, the World Bank's Forest Carbon Partnership Facility (FCPF)⁸ was created specifically to assist countries in their efforts to participate in REDD+ CO₂ mitigation efforts. FCPF aims to prepare REDD+ host countries for generating carbon revenues successfully by developing baselines, establishing accurate carbon accounting systems, and supporting the project through the early stages of the approval process⁹.

Various national initiatives have been created in order to fund and support REDD+ readiness activities across the globe. The Norwegian Climate and Forest Initiative has pledged over 50 million USD, Australia's International Forest Carbon Initiative has allocated 200 million AUD to activities related to REDD+ development and monitoring, and both the German International Climate Initiative and Japanese Cool Earth Partnership have set aside large amounts of funding for climate change mitigation activities, including forest conservation (Chutz, 2010).

The latest collaborative program is the REDD+ Partnership, signed in May 2010 by 58 countries. Its aims are to provide coordination of existing bilateral and multilateral REDD initiatives (like the FCPF and UN-REDD among others) and to create a database that can identify gaps and avoid investment overlaps. The partnership will serve as a temporary platform for partners to give scale to the actions and finance for REDD activities, implementing immediate actions, and improving the effectiveness, transparency, and coordination of initiatives and instruments that will increase knowledge transfer and build capacity. As of 2010, at the Oslo Climate and Forest Conference, 4 billion USD have been pledged¹⁰.

Along with these state efforts, non-governmental organizations (NGOs) also play an important role. Many REDD projects have collaborated with NGOs—especially those with a vast repertoire of field experience—to ensure that addressing key components such as advocacy and education within local communities can be more effectively implemented. For example, the Berau Carbon Project, located on the Indonesian side of the Island of Borneo, has strategic alliances with the Nature Conservancy and World Education, both NGOs with a great deal of experience working with local communities. Each carries out activities that ensure REDD+ benefits materialize within the Berau communities.

Despite the enormous number of actors involved and the quantity of initiatives organized to coordinate them, the panorama on the whole is disjointed, causing a lack of political desire, and thus a lack of appropriate funding. Currently, a lack of harmonization exists among the different entities involved with REDD+. For example, if a country expresses interest in funding a REDD+ project or the initiative in general, there are many avenues to follow. Thus, the next step

⁸ It is important to stress that REDD+ is a climate change mitigation solution. UN-REDD and the FCPF are initiatives that currently support and develop REDD+.

⁹ See <http://www.forestcarbonpartnership.org/fcp/> for more information.

¹⁰ See <http://www.oslocfc2010.no/> for more information.

is unclear. However, since the Copenhagen Summit, a series of events have helped to further develop the goals and initiatives of the Accord. On the 2nd and 3rd of September 2010, 46 countries and the EU met informally at the Geneva Dialogue on Climate Finance to discuss a potential financing mechanism for REDD+ before COP 16 in November 2010. At the Dialogue, a three-step process was proposed for the establishment of a new climate fund, which may be selected as the official mechanism for the Green Climate Fund.

What That Could Mean

There are seemingly countless ways to establish a large-scale implementation strategy for REDD+. Here's what we think.

Based on the framework set forth by the Copenhagen Accord, a phased implementation approach seems most realistic for the success of REDD+ projects. The phases of this option are a combination of a donor-based approach, where the majority of the funding continues to come from the public sector, and a market-based approach, where the funding of projects is completely reliant upon the private sector through, as it stands now, the global carbon market (although alternative markets should not be ruled out). As the global carbon market has not yet been established, the latter is not possible at this time. A phased implementation, however, has the potential to offer a smooth, gradual transition between the two approaches based on readiness and sufficient governance and technological capacities—not on any particular time-dependent plan (Meridian Institute, 2009). In the short term, this design option focuses on donor-based capacity building, harmonization of carbon measuring methodologies, technology transfers, and early incorporation of existing REDD+ pilot projects into an official REDD+ system, whereby payments are made in return for forestry emission reductions. Eventually, assuming that the international community gradually establishes the conditions for a functioning global market, REDD+ projects will rely less and less on public donations, with the intention that forests will ultimately play a significant enough role in the carbon market that REDD+ programs become self-sustaining.

The phases are associated with distinct sets of institutions, though it is possible to moderate the transition between them. The initial phase would determine comprehensive answers for the existing scientific uncertainties, which could provide the basis for the precise carbon accounting methodologies required for fungible carbon credits in the market-end phase. Although REDD+ would be financed primarily by public funding sources in the initial phase, voluntary carbon markets could continue to function parallel to the initial phase of the REDD+ program, playing a significant role in capacity building while influencing the long-term construction of the program and the global carbon market. The newly created High Level Panel on Global Sustainability is expected to provide guidance on program design options.

Obviously, the feasibility of any REDD+ implementation option that involves the carbon market on an international scale relies on the existence and functionality of that global carbon market. It seems likely that a global carbon market will be created if and when the joint international political will emerges to adopt global carbon emission caps. However, even if it comes to pass, transitioning REDD+ into a market mechanism is no easy task. Both developed and developing nations must agree on a carbon accounting methodology. Current technologies are capable of generating data of sufficient quality to produce credible reference levels; however, the use of varying scientific methodologies and assumptions presents a significant obstacle. Additionally, a central controversy surrounding REDD+ involves the absence of international

consensus regarding both the definition of a forest and the selection of a standard method for measuring carbon stocks. The current United Nations definition of a forest¹¹ is far too vague, as it does not distinguish between a forest and an industrial tree plantation. This has serious implications, not only in terms of carbon measurements and contribution to reducing greenhouse gas emissions, but also, again, for national and local hydrological processes, the long-term livelihoods of indigenous people, biodiversity, and so forth. The UNFCCC and FAO have repeatedly produced estimates of forest carbon stocks using the same location and data with significantly different results. It is also unclear how carbon stocks will be effectively translated into credible carbon credits.

With this in mind, approaches to implementing REDD+ should be careful not to completely rely on the potential creation of a global carbon market. First, it may not come to be realized; even if it does, there is no guarantee that REDD+ will effectively work within it. Other markets, such as non-timber forest products, should be taken into consideration in order to ensure the longevity of REDD+ and all that it stands for. Nonetheless, whatever implementation option REDD+ comes to operate under must allow for the most essential aspect of the future program: flexibility. Every project, every region, every nation, every continent—the REDD+ framework must accommodate the needs and circumstances of them all, individually and as a whole. REDD+ should be ready to accommodate multiple markets and various avenues of funding.

However, these complications and stipulations do not in any way detract from the fact that reducing emissions from deforestation and forest degradation is essential to climate change mitigation. As long as we allow them to thrive, forests will always play the same role—they will continue to store massive amounts of carbon (cheaper than any carbon-sequestration technology can in the near future), provide a home to millions of people in developing nations, support much of the world's biodiversity, and significantly affect hydrological and climatic systems. When cut down, they will still release years and years' worth of CO₂, each time, little by little, degrading the forests' ability to sustain a global quality of life that is so often taken for granted. REDD+ is not only an environmental solution but also a viable way to enhance the wealth and welfare of developing countries. Incentives to keep forests standing should always exist, and a creatively comprehensive REDD+ framework can create them—and help the world keep its lungs.

References

- Chutz, N. (2008). *What will it take to make REDD work?* Unpublished paper, American University, Washington, D.C.
- Eliasch, J. (2008). *Climate change: Financing global forests*. London: Earthscan Publications Ltd.
- Food and Agriculture Organization. (2007). *State of the world's forests, 2007*. Retrieved from: www.fao.org/docrep/009/a0773/a0773e00.HTM
- Carbon Planet. (2009). *Carbon Planet White Paper: The History of REDD Policy*. Retrieved from: http://www.carbonplanet.com/white_papers

¹¹ As agreed upon under the UNFCCC: “‘Forest’ is a minimum area of land of 0.05–1.0 hectare with tree crown cover (or equivalent stocking level) of more than 10–30 per cent with trees with the potential to reach a minimum height of 2–5 metres at maturity in situ. A forest may consist either of closed forest formations where trees of various storeys and undergrowth cover a high proportion of the ground or open forest. Young natural stands and all plantations which have yet to reach a crown density of 10–30 per cent or tree height of 2–5 metres are included under forest, as are areas normally forming part of the forest area which are temporarily unstocked as a result of human intervention such as harvesting or natural causes, but which are expected to revert to forest.” (UNFCCC, 2005, p. 5).

- Intergovernmental Panel on Climate Change. (2007). *IPCC Fourth Assessment Report: Climate Change 2007*. Retrieved from <http://www.ipcc.ch/ipccreports/ar4-wg1.htm>
- Meridian Institute. (2009). *2009 REDD+ institutional options assessment. Developing an efficient, effective, and equitable institutional framework for REDD+ under the UNFCCC*. Retrieved from http://www.redd-oar.org/links/REDD+IOA_en.pdf
- Mongabay. (2008). Do parks worsen deforestation through 'leakage'? Retrieved from: www.mongabay.com
- Overseas Development Institute. (2009). The REDD+ outlook: How different interests shape the future. *ODI Background Notes*. Retrieved from: <http://www.odi.org.uk>
- Pachauri, R.K., & Reisinger, A. (Eds.). (2007). *IPCC Synthesis Report: Climate Change 2007. Contribution of Working Groups I, II, and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Geneva: IPCC.
- The Nature Conservancy. (n.d.). Facts about rainforests. Retrieved from: <http://www.nature.org/rainforests/explore/facts.html>
- United Nations Conference of the Parties. (2009). *Framework Convention on Climate Change, Draft Decision -/CP.15. Copenhagen Accord*. Retrieved from: <http://unfccc.int/resource/docs/2009/cop15/eng/107.pdf>
- United Nations Framework Convention on Climate Change. (2007). *Investment and Financial Flows to Address Climate Change*. Retrieved from: http://unfccc.int/files/cooperation_and_support-financial_mechanism/application/pdf/background_paper.pdf
- United Nations Framework Convention on Climate Change. (2005). *Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its first session, Annex to Decision 16/CMP.1*. Retrieved from unfccc.int/resource/docs/2005/cmp1/eng/08a03.pdf

* We are a group of 13 committed people working together to analyze the interdisciplinary aspects of REDD+ via the Copenhagen Accord. We are all graduate students pursuing a Masters of Public Administration in Environmental Science and Policy, through a joint program of Columbia University's Earth Institute and School of International and Public Affairs (SIPA). We hail from a wide variety of academic disciplines, including economics and biology, and professional backgrounds, from the private sector to public and nonprofit organizations. Our members come from eight different countries, including Canada, Colombia, Ecuador, Hungary, Italy, the Philippines, Spain, and the United States. This exciting opportunity for such a diverse collaboration generated synergies in the quest for a well-balanced analysis of a complex global environmental issue. Email: rmb2184@columbia.edu.