THE FORESTS DIALOGUE - TFD

IMPLEMENTING REDD IN THE BRAZILIAN AMAZON: CONTEXTUALIZATION, DEBATES AND CHALLENGES

Background Paper for Field Dialogue in Brazil[1]
October 28-29, 2009, Belém – PA

Introduction

This background paper, as a contribution to the TFD Field Dialogue on REDD in the Brazilian Amazon, has been organized in the following manner: The first three sections provide an overview of the region in terms of: i) the geographical and historical context, ii) key characteristics of contemporary Brazilian Amazonia, and iii) recent trends and drivers of deforestation and forest degradation. Section IV provides a brief commentary on the importance of forests within Brazil's GHG emissions portfolio and the recent evolution of positions and proposals in the country regarding REDD. Section V presents an analysis of the current state of debates on key issues and challenges for the implementation of REDD in the Brazilian Amazon. At the end of the paper, the reader will find a list of abbreviations, as well as a list of references.

1. The Brazilian Amazon: geographical and historical context

The Amazon biome covers approximately 6.4 million square kilometers in nine countries, of which 63% (4 million km^2) are located within Brazil's national boundaries. The remaining 37% (2.4 million km^2) are distributed between Peru (10%), Colombia (7%), Bolivia (6%), Venezuela (6%), Guiana (3%), Suriname (2%), Ecuador (1,5%) e and French Guiana (1,5%). The Amazon River basin - with its headwaters located in the Andes *cordillera*, Guiana Shield and Brazilian savannas (*cerrado*) - covers approximately 7 million km^2, equivalent to 25% of the land surface of South America. With over a thousand rivers and tributaries, the Amazon is the world's largest hydrographic basin and the source of 15% of all fresh water on the planet.[2]

The Amazon forest biome and the "Legal Amazon" of Brazil

source: IMAZON

[1] Background paper prepared by Brent Millikan (Amigos da Terra – Amazônia Brasileira). The author wishes to thank Jan Willem den Besten (IUCN) and Roberto Smeraldi (AdT) for comments on a draft version of this paper, as well as Adriana Ramos (ISA) for a lively and informative conversation on REDD, the Amazon Fund and public policies in Brazil.

[2] Not including glaciers and other frozen sources of freshwater (Meirelles Filho, 2004).

When referring to the Brazilian Amazon, it is useful to distinguish between the portion of the biome located within the country's boundaries, covering some 4.1 million square kilometers (48% of the country's surface area) and the "Legal Amazon" (Amazônia Legal) a geopolitical region created for administrative purposes that encompasses five million square kilometers or 58% of the country's total area, including all or part of nine Brazilian states (see map below).[3]

States of the "Legal Amazon" of Brazil

source: Imazon

Within the "Legal Amazon", various types of tropical forests originally covered an estimated 73% of the region. Non-forest forms of natural vegetation, such as savannas, natural grasslands and *campirana,* are also encountered in the region. The portions of "Amazônia Legal" located outside of the Amazon biome are covered mainly by savannah vegetation and transitional forests, principally within the *cerrado* biome.

Major categories of natural vegetation in the "Legal Amazon" of Brazil

Map of major biomes in Brazil

source: CIRAD/CDS/UnB

From the colonial period through the 1950s, the economy of the Brazilian Amazon was characterized by intermittent exploratory activities and the "boom and bust" cycles of extractive commodities. While predominant economic activities did not lead to widespread deforestation or

[3] The Legal Amazon was established by Federal Law no. 1.806 of January 6, 1953, upon creation of the *Superintendência do Plano de Valorização Econômica da Amazônia* (SPVEA).

depletion of timber resources, they were often marked by unsustainable uses of natural resources, the concentration of wealth, exploitative labor conditions and devastating impacts on indigenous populations (Oliveira 1983, Weinstein 1983).

During the 1950s, initial steps were taken by the Brazilian government to promote the "integration" of the Amazon region into the national economy and society, including creation of a regional development plan (PVEA) and a special federal agency for its implementation (SPVEA), along with construction the Belém-Brasilia (BR-153) highway. In the early 1960s, the BR-364 (Cuiabá - Porto Velho) was also opened as a penetration highway, linking the Center-south region to the western Amazon. During this period, the opening of federal highways in the Amazon was viewed a means to decentralize population and economic development towards the country's interior, facilitate access to raw materials and expand markets for consumer goods industries based in the Center-south.

Following the military coup of 1964, Brazil's generals drastically increased the level of state intervention in the Amazon, as exemplified by the creation in 1966 of a new regional development agency, SUDAM. Planning doctrines were increasingly influenced by geopolitical concerns for "national integration" and "national security" in the Amazon (Becker 1990). The region was characterized as a demographic void, where urgent measures should be taken to allocate 'lands without men to men without lands'. This view ignored the presence of pre-existing populations, such as indigenous peoples, extractivists and riverine communities (Hall 2008). During the early 1970s, government policies prioritized the construction of the east-west Transamazon highway (BR-230) and an ambitious small-farmer colonization scheme that would purportedly settle 100,000 migrant families - three-fourths of them impoverished Northeasterners (Moran 1981, Bunker 1985).

Federal highways in the Brazilian Amazon

source: DNIT/MT

By the mid-1970s, the federal government had essentially abandoned its ambitious plans for small-farmer colonization along the Transamazon highway, essentially leaving migrant families to their fate. Although supposedly deriving from various technical difficulties and the alleged shortcomings of migrant farmers, this change of course was traceable to pressures exerted by powerful lobbies based largely in the Center-south region, interested in new economic opportunities (especially large-scale cattle ranching) associated with the opening of roads and other infrastructure in the Amazon (Schmink and Wood, 1979; Hecht 1985). Beginning in the mid-1970s, development paradigms were increasingly centered on promotion of private enterprises through generous credit

and fiscal incentives, with particular attention to the ranching, timber and mining sectors (Gasques, & Yokomizo, 1985). However, impoverished migrant settlers continued to be attracted to the region, especially along the BR-364 highway in Rondônia and the BR-163 (Cuiabá-Santarém) highway in western Pará.

An important driver of processes of frontier expansion in the Amazon is that occupants of public lands were actively encouraged to clear forests as proof of 'productive' activity for purposes of concessions of private titles on public land and access to public credit. Within this context, social conflicts over access rights to land and other natural resources, involving a variety of migrants and existing populations, intensified during the 1970s and 1980s (Branford & Glock 1985; Hecht & Cockburn 1989, Millikan 1992).

During the 1980s, conventional models of Amazonian "development" were increasingly questioned by social movements, human rights advocates, environmentalists, academics and other concerned citizens. By the late 1980s, the rubber-tapper and indigenous peoples movements, in conjunction with environmentalists, were successful not only in calling public attention to the negative social and environmental impacts of mainstream development schemes (such as the World Bank-funded POLONOROESTE program) but also to their positive contributions towards the conservation of forests (Schwartzman and Allegretti 1987; Hall 1997). Particularly after the brutal murder of rubber-tapper leading Chico Mendes in December 1988, some positive steps were taken, such as creation in March 1990 of the first four Extractive Reserves (RESEX) in the Brazilian Amazon, conceived by the rubber-tapper movement as a means to combine community-based development with forest conservation (Allegretti 1990). Throughout the late 1980s and 1990s, however, conventional development paradigms predominated in the region, as exemplified by a series of export-oriented transportation corridors within the *Brasil em Ação* and *Avança Brasil* programs.

2. Characteristics of contemporary Brazilian Amazônia

At the beginning of the 21st century, some of the key characteristics of the Brazilian Amazon may be summarized as follows:

- **Population**: The total population of the Brazilian Amazon was estimated in 2004 at 22.5 million inhabitants (12% of the country's total), with 73% residing in urban areas and 21% composed of immigrants. The region is home to over 170 indigenous groups with distinct cultures, in various levels of contact and assimilation into the larger society. Traditional populations include rubber-tappers (*seringueiros*), Brazil nut gatherers (*castanheiros*), riverine and fishing populations (*ribeirinhos, pescadores*) and descendants of African slaves (*quilombolas*). Other important groups include migrant settlers, placer miners, loggers, cattle ranchers, and land speculators (Celentano & Verissimo 2007).

- **Economy:** In 2004, the GDP of the region was estimated at R$ 137.9 billion (US$ 64.7 billion). Although growth in regional GDP of the Amazon has outpaced the national average in recent years, it still represents only 8% of the Brazilian economy. *Per capita* GDP (US$ 2.32 thousand) grew only 1% per year in the last years in the Amazon, remaining 40% less than the Brazilian average. Only 21% of the economically active population had formal employment in 2004, with the majority being within the public sector (Celentano & Verissimo 2007).

- **Boom and bust cycles**: Contemporary processes of land occupation, natural resource utilization and economic growth on the Amazon frontier have often been characterized by "boom and bust" patterns, particularly when linked to extensive ranching and unsustainable logging. In short term, rapid growth in income and employment has occurred. However, social and environmental costs are typically high, as evidenced by high levels of violence, degradation of

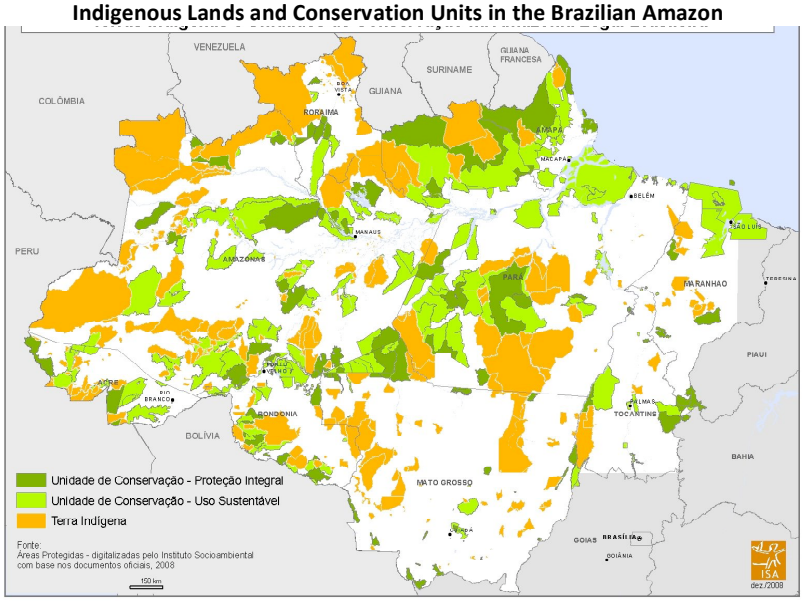
forest resources, and deforestation. In the long term, major reductions and even collapse of economic and social indicators has often occurred, associated with exhaustion of forests and other natural resources, land concentration and extensive patterns of land use, such as cattle pasture (Celentano & Verissimo 2007b; Rodrigues et. al 2009).

- **Timber industry:** Logging and industrial processing of timber constitute a major economic activity in the Brazilian Amazon. In 2004, the timber industry generated a gross income of US$ 2,3 billion and was responsible for creating 124,000 direct jobs (extraction and processing) and 255,000 indirect jobs (equipment, transportation, etc.). An estimated 3% of the economically active population in the Brazilian Amazon is involved either directly or indirectly in the timber sector. In 2004, the logging industry in the Brazilian Amazon harvested an estimated 24.5 million m^3 of roundwood, the equivalent of about 6.2 million trees. This raw material generated 10.4 million m^3 of processed wood. Most timber was processed as simple boards (63%). An estimated 80% of the total volume of round logs extracted annually in the Brazilian Amazon originates from illegal sources, including both deforestation and predatory logging (Imazon, 2005)

- **Land Tenure**: The land tenure situation in the Brazilian Amazon is still characterized by a high degree of uncertainty regarding access and ownership rights, high levels of *de facto* land concentration and institutional conflicts between federal and state agencies. An estimated one-third of the Legal Amazon (32% or 158 million hectares) is composed of private land claims that remain to be fully verified by INCRA. According to Imazon (2008), there are over 300,000 cases of squatter occupations (*posses*) throughout the Brazilian Amazon.

- **Protected Areas:** Approximately 40% of the Brazilian Amazon is covered by various types of protected areas, including: i) conservation units for "integral protection" (e.g. national parks, biological reserves, wildlife refuges), ii) "sustainable use" conservation units (extractive reserve, sustainable development reserves, national forests, etc.) and iii) indigenous lands. Over 60% of protected areas allow for direct participation of resource-user populations in managing natural resources.

Indigenous Lands and Conservation Units in the Brazilian Amazon



Source: ISA 2008

- **Land conflicts**: Violent land conflicts continue to be a major problem in the Brazilian Amazon, especially in areas such as southern Pará. Between 1985 and 2005, an average of 46

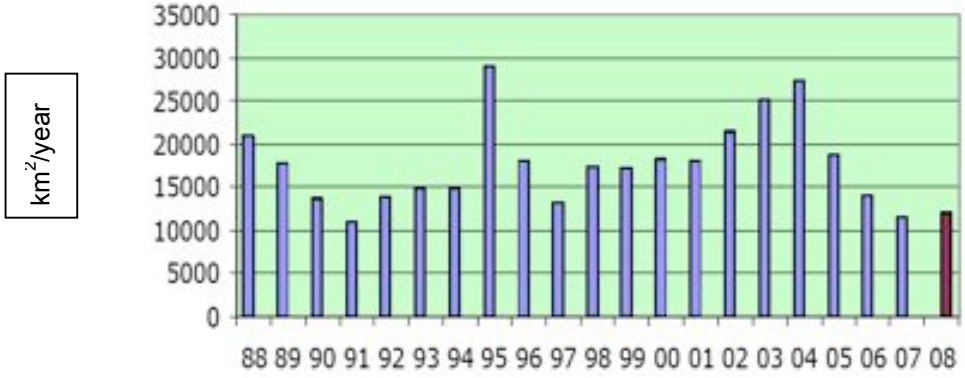
assassinations were reported annually as a result of land disputes in the Brazilian Amazon. In 2004 alone, 1,800 cases of violence related to land conflicts were reported in the region. A significance percentage of land conflicts tend to go unreported (CPT 2005).

- **Civil society organizations**: There is a wide range of civil society organizations active in Brazil with interests related to forests, climate change and sustainable development in the Amazon region. These may be loosely organized in the following categories: i) social movements, representing indigenous peoples (COIAB and various local/sub-regional organizations); rubber-tappers and other extrativist populations (CNS and others), fishermen (MOP and local organizations), small-farmers and rural workers (CONTAG, state federations and rural workers unions), landless farmers (MST and other groups) and dam-affected populations (MAB); ii) local, regional and national-level Brazilian NGOs involved in environmental, human rights and other issues related to sustainable development, with differing agendas in terms of advocacy, research, support for social movements, etc. (e.g. AdT, CIMI, CPT, FASE, IBASE, IMAZON, IPAM, ISA, Vitae Civilis) iii) organizations linked to international environmental NGOs or networks (CI, Greenpeace, NAT, TNC, WWF-Brasil) with differing agendas and levels of autonomy, and iv) networks of civil society organizations operating at the regional and national levels: e.g. Amazon Working Group - GTA (an umbrella network of over 500 organizations that includes social movements and NGOs, with regional representations at the state level); Brazilian Forum of NGOs and Social Movements – FBOMS, with working groups established on forests and climate issues; *Observatório do Clima,* a network of NGOs working on climate change issues, including REDD*; Rede Brasil sobre IFIs* (Brazil Network on Multilateral Development Banks), and *Plataforma BNDES* (a civil society network that critically monitors the activities of BNDES, particularly with regard to its credit operations).

3. Deforestation and forest degradation in the Brazilian Amazon: trends and drivers

According to analyses of satellite-based remote sensing data by the Brazilian Institute of Space Research (INPE), annual deforestation rates in the Brazilian Amazon peaked at around 29.000 km^2 (2.9 million hectares) in 1995, followed by a reduction to approximately 16.500 km^2 yearly in the second half of the 1990s. However, average rates of annual clearing increased substantially to 21.500 km^2 during the 2000-2004 period, peaking at 27.772 km^2 in 2004. During the subsequent period of 2005-2007, deforestation rates dropped 59% to an average of 14.300 km^2 per year per annum. The latest estimates on annual clear-cutting of forests in the Brazilian Amazon (11.698 km^2 for 2008) indicate a slight increase (3.8%) in relation to 2007 (INPE 2008).[4]

Annual Deforestation Rates in the Legal Amazon of Brazil (1988-2008)



Source: PRODES/INPE

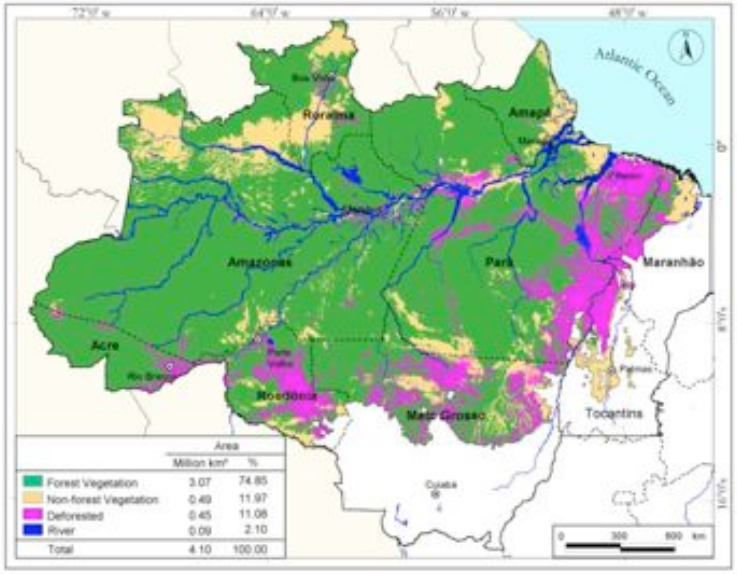
[4] INPE/PRODES data on annual deforestation in the Brazilian Amazon, based on Landsat-TM and CBERs remote sensing imagery, correspond to periods from August 1 of previous year to July 31. Estimates of deforestation in the Amazon have been limited to forest vegetation types.

The following points summarize some of the key trends and drivers of deforestation in the Brazilian Amazon:

a) In recent decades, forest clearing in the Brazilian Amazon has been spatially concentrated along an "Arc of Deforestation" that extends from southeast Maranhão across the southern flanks of the Amazon in the states of Tocantins, Pará, Mato Grosso and Rondônia, extending to southwest Acre. In recent years, there have been tendencies for forest clearing to expand to new frontiers beyond the traditional "Arc of Deforestation", such as southern Amazonas and the BR-163 highway in western Pará state.

b) Most forest clearing in the Brazilian Amazon has occurred along the axis of major highways, such as BR-364, BR-153 and BR-158. These corridors established new forms of access to land and other natural resources, exercising a powerful influence in the structuring of new patterns of human occupation in the region. Moreover, such areas have been the focus of government programs in small-farmer settlement, as well as land titling and economic incentives towards logging, agriculture and cattle ranching (Fearnside 2005).

Forest, Non-Forest Vegetation and Deforestation in the Brazilian Amazon

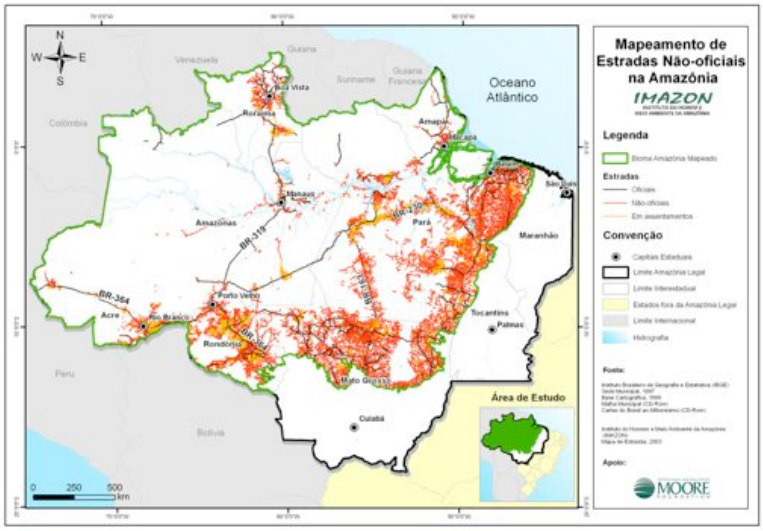


source: IMAZON

c) Variations in the spatial dynamics of deforestation in the Brazilian Amazon have reflected significant differences among influencing factors, such as land tenure policies, economic incentives, infrastructure and access to markets, and migrations from other regions of Brazil, as well as environmental characteristics (soils, topography, timber and mining resources, climate).

d) In areas of recent frontier expansion, deforestation patterns often correlate with the opening of clandestine roads by illegal loggers, particularly on yet-to-be-destined public lands and protected areas (conservation units, indigenous lands). Illegal logging often plays a key role in the initial stages of occupation of public lands, facilitating subsequent access by squatters and other actors. Frequently, ranchers and speculators use proceeds from illegal high-grading of forests to finance subsequent clear-cutting of forests.

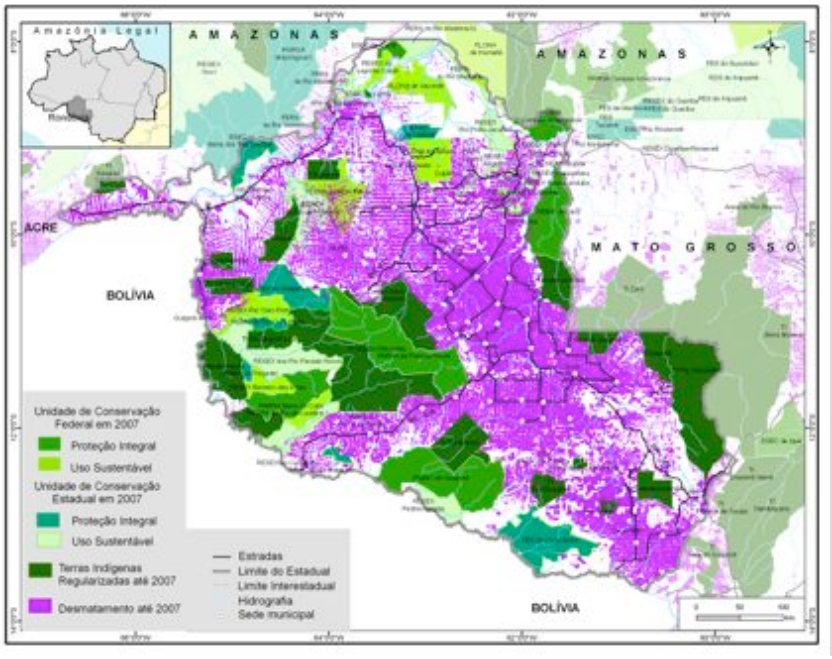
Map of clandestine roads in the Brazilian Amazon



source: IMAZON

e) Conservation units and indigenous lands play highly relevant roles in the protection of large contiguous areas of forest ecosystems. However, there are alarming examples where lack of effective implementation of protected areas (e.g., land tenure regularization, demarcation, management plans), pressures from adjacent areas (e.g. illegal logging) and legislative initiatives to reduce or de-commission conservation units have resulted in intensified deforestation, degradation and social conflicts (GTA, 2008, Imazon 2009).

Cumulative Deforestation and Protected Areas in the state of Rondônia (2007)



source: GTA (2008))

f) In areas of recent frontier expansion in the Brazilian Amazon, deforestation is often practiced within the context of "land-grabbing" (*grilagem*), whereby access rights to lands are based on fraudulent land titles and, typically, the use of violence against landless farmers and traditional populations

g) Historically, forest clearing associated with the introduction of artificial cattle pastures has been recognized by INCRA, the federal land agency, and state governments as an "improvement" (*benfeitoria*) on public lands, for purposes of granting private titles. Such policies have not only encouraged forest clearing (in contradiction to environmental legislation) but also contributed to the expulsion of traditional populations and landless migrants by speculators and ranchers.

h) Cattle pasture is by far the predominant land use in the Brazilian Amazon. According to Imazon, there are approximately 57 million hectares of pastures in the region, of which some 23.4 million ha are characterized by low productivity and varying states of degradation.[5] The predominance of cattle pasture in the Amazon reflects a combination of factors, including: i) the use of pasture as a means to establish and maintain land claims, both legitimate and fraudulent, ii) the profitability of extensive ranching, especially when linked to subsidized access to public land, timber resources and cheap labor, iii) among family-based producers, the importance of cattle, especially for dairy farming, as a guarantee against financial duress, iv) tendencies towards land concentration, including rural settlement projects high rates of attrition (Arima et. al 2005; Barreto 2008; AdT 2008, 2009)

i) It has been conservatively estimated that some 90% of deforestation in the Brazilian Amazon is illegal. In addition to illicit practices where forest clearing cannot be authorized, such tendencies reflect difficulties in implementation of the Brazilian Forestry Code (see box), associated with bottlenecks in licensing, non-enforcement of legislation and an historical lack of incentives for valuing forests for sustainable management and ecosystem services (Brito et. al 2005, ICV 2008).

The Brazilian Forestry Code

The Brazilian Forestry Code (Federal Law 4771/65) establishes a percentage of rural properties that should be maintained as a permanent forest reserve (*Reserva Legal*). The Forestry Code also prohibits the clearing of primary vegetation on steep slopes, as well as along the margins of rivers and streams, all of which are classified as "Areas of Permanent Protection" (*Áreas de Preservação Permanente*– APPs). A ***Legal Reserve*** is defined as "an area located in the interior of a private property or land claim, except in areas of permanent preservation (APP), necessary for the sustainable use of natural resources, the conservation and restoration of ecological processes, the conservation of biodiversity and the sheltering and protection of native flora and fauna" (article 1, III). An ***Area of Permanente Protection*** (APP) is defined as a "protected area covered or not with native vegetation, with the environmental functions of preserving water resources, landscapes, geological stability, biodiversity, and genetic fluxes of flora and fauna, as well as protection of the soil and securing the well-being of human populations" (article 1, II). Such norms are linked to such legal statutes as: i) the concept that forests are essential to the "common interests to all inhabitants of the country"(Article 1 of the Brazilian Forestry Code), and ii) the determination that the "social function" of rural landholdings (imóveis rurais) requires, *inter alia*, "the adequate use of available natural resources and environmental preservation" (article 186, Federal Constitution of 1988). The Forestry Code originally stipulated that at least 50% of private properties in the Northern Region should be maintained as Legal Reserves. Following a major increase in forest clearing rates in the mid-1990s, a provisional executive order as signed by President Fernando Henrique Cardoso in July 1996 (*Medida Provisória* 1.511/1996) that prohibited deforestation on 80% of private landholdings in the Legal Amazon characterized by forest cover.[6] Due to controversy surrounding this measure, its current version (*Medida Provisória no. 2166-67/2001*) has not yet been transformed into law or rejected by the Brazilian Congress.

[5] Pecuária gera 44% das emissões, Valor Econômico, August 27, 2009, http://www.amazonia.org.br/noticias/noticia.cfm?id=325215

[6] In contrast, the Forestry Code (article 16) determines that only 35% of savannah (cerrado) vegetation on private landholdings in the Legal Amazon be maintained as Legal Reserves.

j) Increasingly, deforestation trends in the Brazilian Amazon have been linked to globalized markets for beef, timber, soybeans and other commodities. Such trends represent both a threat to intensified clearing, and an opportunity to strengthen efforts to promote certification of supply chains and other positive measures (Greenpeace 2006, Barreto et. al 2009; AdT 2008, 2009).

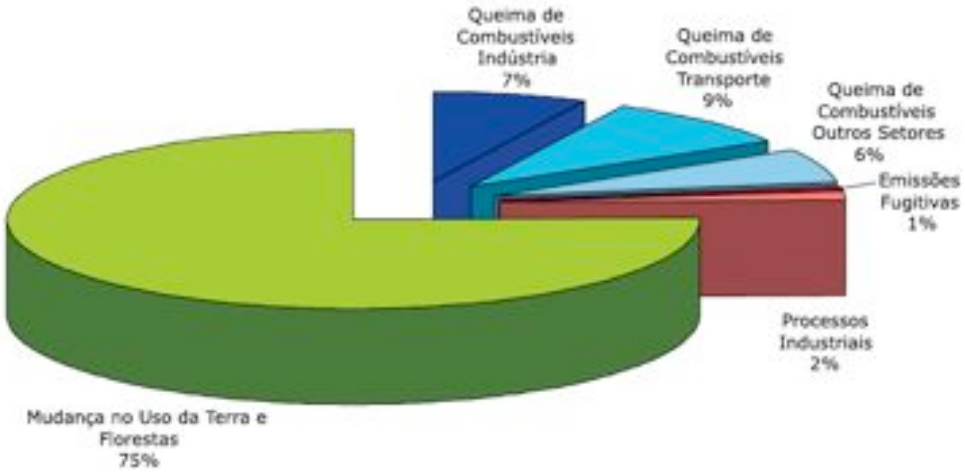
k) Although recent reductions in deforestation may be linked to fluctuations in commodity markets, especially for beef and soybeans, as well as climatic factors, it may be convincingly argued that recent efforts undertaken by the Brazilian government, especially related to the creation of conservation units in areas such as the BR-163 corridor and improved enforcement activities have also yielded positive results.

l) While some 20% of Brazil's Amazon rainforest has been lost to clear-cutting, an even larger area has been subject to degradation from various forms of human intervention, including mining, logging and forest fires (Imazon 2008, Hall 2008). In recent years, unprecedented fire invasions of forests have been associated with a combination of predatory logging, uncontrolled burning in adjacent pastures and agricultural plots and unusually intense dry seasons.

4. Brazil: GHG emissions and evolution of proposals for REDD

The profile of Brazil's anthropogenic greenhouse gas emissions contrasts with those of industrialized countries, where the burning of fossil fuels typically predominates among sources of CO_2 emissions. According to available data from Brazil's first national GHG inventory for the 1990-94 period, contributions from energy, industrial processes, solvents and treatment of solid wastes together accounted for only 25% of total CO_2 emissions in 1994, estimated at 1,030 Tg (approximately 1 billion tons). The vast majority of CO_2 emissions were associated with land use, land use change and forests (LULUCF) of which 90% corresponded to conversion of forest to other uses, particularly for agriculture and livestock. Recently, Imazon has estimated that deforestation accounts for 55% of Brazil's current greenhouse gas emissions and that cattle ranching in the Amazon region (including enteric methane) accounts for 44% of total national CO_2e emissions and 80% of all LULUCF emissions (while generating only 2% of GDP). [7]

Brazil: national CO_2 emissions by major sectors (1994)



source: MCT 2004, Plano Nacional de Mudanças Climáticas – PNMC (2008)

[7] Pecuária gera 44% das emissões, Valor Econômico, August 27, 2009, http://www.amazonia.org.br/noticias/noticia.cfm?id=325215

Estimates of Total National Emissions and relevance of LULUCF (selected countries)

Country	Total Emissions GHG in 2005 (excluding LULUCF) Mt/CO_2 (1)	Estimated average annual emissions LULUCF for 2000-2005, MtCO_2 (2)	Estimated total emissions (Including LULUCF) MtCO2
United States	7.219,2	-36,7	7.182,5
China	6.963,8	-461,2	6.502,6
Brazil	1.014,1	1171,7	2.185,8
Russia	1.960,0	14,1	1.974,1
India	1.852,9	-3,7	1.849,2
Japan	1.342,7	0,6	1.343,3
Indonesia	594,4	459,6	1.054,0
Germany	977,4	0	977,4
Mexico*	629,9	120,1	750,0
Canada	731,6	0	731,6
United Kingdom	639,8	-1,4	638,4

1) *source*: WRI/CAIT. http://cait.wri.org/cait.php. Acessado abril 2009; GHG include: CO_2, CH_4, N2O, PFCs, HFCs, SF6/
2) *source*: FAO, State of the World's Forests 2009 Only CO_2, based on forest cover change and averages FAO statistics for forest carbon of 1 t CO2 = 3,666 t C
* Estimate of carbon per hectare from Guatemala

Given Brazil's key role as the world's fourth largest emitter of greenhouse gases and the relevance of LULUCF (particularly deforestation and cattle ranching) within the country's emissions portfolio, it is not surprising that much attention has focused on country's positions on REDD. The following points summarize the evolution of Brazilian positions and initiatives on REDD, especially within the context of UNFCCC:

- **1997:** Brazilian federal government manifests opposition to inclusion of instruments to promote tropical forests conservation and avoidance of deforestation in the Kyoto Protocol.

- **2005:** Brazilian environmentalists propose the creation of a mechanism, linked to international carbon markets that would reward verifiable reductions in CO_2 emissions from deforestation achieved by Brazil and other developing countries, given their contributions to addressing the global climate crisis. Based on satellite monitoring of deforestation, the proposed mechanism would involve the establishment of reduction targets and compensation for "avoided deforestation" contingent upon verified reductions in annual clearing rates, as compared to a periodically-adjusted historical baseline (Santilli et. al 2005, IPAM 2005).

- **November 2006**: Shortly before COP 12 in Nairobi, the Brazilian government proposes the creation of "positive incentives for the net reduction of emissions from deforestation in developing countries that voluntarily reduce their greenhouse gas emissions from deforestation in relation to a reference emission rate". According to the proposal, voluntary efforts to reduce emissions from deforestation should not involve a "mandatory regime" that includes "future obligations, goals, targets or timeframes". Moreover, it is stated that "Brazil does not envisage any mechanism that could be used by Annex I countries to meet their quantified greenhouse gas emission limitation and reduction commitments under the Kyoto Protocol. In this context, emission reductions achieved are to be considered additional to emission reduction by Annex I countries". (Brazil, 2006).

- **May 2007**: At a meeting of SBSTA, the Brazilian government submits a document with

additional methodological considerations with regard to its proposal for "policy approaches and positive incentives to reduce emissions from deforestation in developing countries".'

- **October 2007**: A group of nine NGOs[8] launches the "Zero Deforestation Pact" in the Brazilian Congress, proposing a national commitment to reduce deforestation rates in the Amazon from 14.000[2] in 2005-2006 to zero in 2015, based on annual targets and a series of actions to strengthen forest governance in conjunction with state governments (with particular attention to improving licensing systems of rural landholdings) economic incentives towards reduction of deforestation and conservation of forests, creation and consolidation of conservation units, implementation of alternative settlement projects appropriate to the Amazon, and support for indigenous peoples. Based on the findings of an initial study, the signatory organizations estimated needs of RS 1 billion annually to finance implementation of the pact, and called for the creation of a special "Amazonian Fund" to be created within the National Bank for Economic and Social Development (BNDES).[9]

- **August 2008:** President Lula signs Decree 6.527, creating the Amazon Fund (*Fundo Amazônia*) within BNDES.[10] The Amazon Fund is conceived as a mechanism for receiving donations aimed at "actions in prevention, monitoring and control of deforestation and promotion of conservation and sustainable use of the Amazon biome in the following areas: i) management of public forests and protected areas, ii) environmental monitoring, control and enforcement, iii) sustainable forest management, iv) (other) economic activities based on the sustainable use of forests, v) ecological-economic zoning, territorial ordering and land tenure regularization, vi) conservation and sustainable use of biodiversity, and vii) rehabilitation of degraded lands." Along the lines proposed at COP 12, donations to the Amazon Fund would be linked to verifiable emissions reductions from Amazonian deforestation, such as the 59% reduction between 2004 and 2007. Towards this end, the Norwegian government announces an initial donation of US$ 100 million to the Amazon Fund, with the intention of contributing up to US$ 1 billion over 10 years. The presidential decree also established a steering committee, composed of representatives from the federal government, Amazonian state governments, industry, academia and civil society organizations.[11]

- **November, 2008:** The governors of Mato Grosso, Amazonas, Pará and Amapá states participate in the "Governors' Global Climate Summit" in Los Angeles, where MOUs are signed with the US states of California, Illinois and Wisconsin. The MOUs pledge cooperation on climate change and commitments to developing regulations for reductions of deforestation to be used in US state compliance markets. During the event, the Governors' Working Group on Climate and Forests (GCF) is established to move forward in defining criteria for implementation of "compliance-grade REDD" (EDF, 2009).

- **December 2008:** The Brazilian government launches the National Climate Change Plan (PNMC) on the eve of COP 14 in Poznan.[12] In general terms, the plan calls for a "sustained reduction in deforestation rates ... in all Brazilian biomes" with the overall goal of reaching "zero illegal deforestation", albeit at an underdetermined moment in the future. Specially, the PNMC establishes a goal of reducing Amazonian deforestation in 80% by 2020, in relation to a baseline of annual deforestation in the 1996 – 2006 period, resulting in a reduction of 4.8 billion tons of

[8] Instituto Socioambiental - ISA, Greenpeace, Instituto Centro de Vida - ICV, Instituto de Pesquisa Ambiental da Amazônia-IPAM, The Nature Conservancy - TNC, Conservação Internacional – CI, Amigos da Terra-Amazônia Brasileira- AdT, Instituto do Homen e Meio Ambiente - Imazon and WWF-Brasil.

[9] http://www.greenpeace.org/brasil/amazonia/noticias/pacto-nacional-prop-e-metas-an

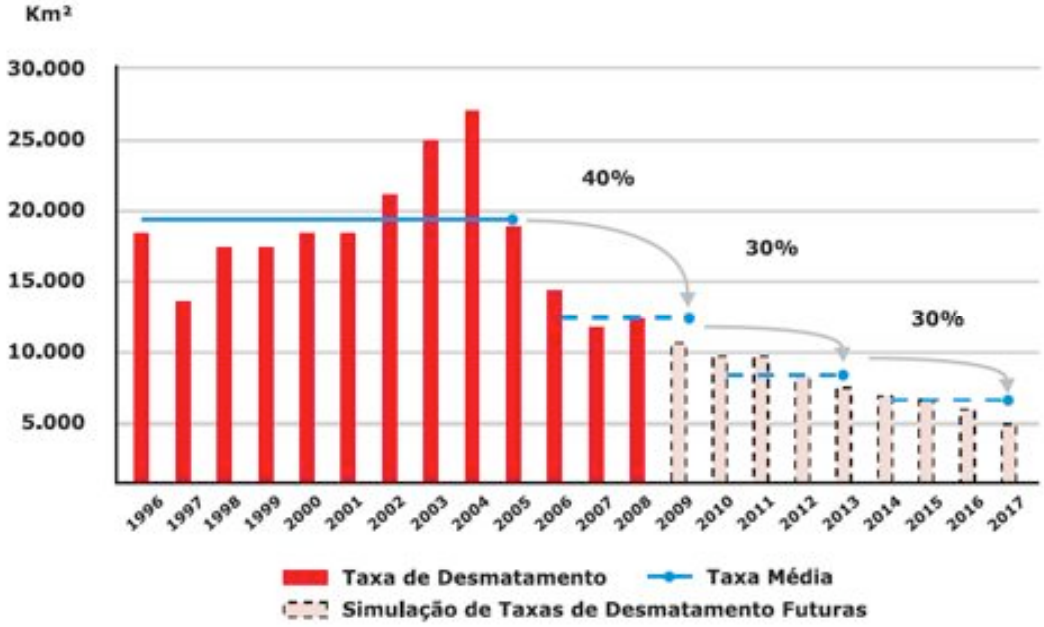
[10] http://www.amazonfund.gov.br/

[11] http://www.planalto.gov.br/ccivil_03/_Ato2007-2010/2008/Decreto/D6527.htm

[12] http://www.mma.gov.br/estruturas/169/_arquivos/169_29092008073244.pdf

CO_2. As shown the graphic below, an initial reduction of 40% would be achieved during the 2006-2009 period in relation to the ten-year 1996-2005 average. Additional reductions of 30% would be achieved in two subsequent periods, using an adjustable baseline. To achieve this goal, the PNMC calls for strengthening implementation of the Action to Prevent and Control Deforestation in the Brazilian Amazon – PPCDAM, especially within its "sustainable productive activities" component[13]. The plan also calls for the implementation of similar action plans in other Brazilian biomes, with improvements in capacities for monitoring deforestation and land use change.

Deforestation rates, projected targets and a moving baseline for Amazonian deforestation within Brazil´s National Plan for Climate Change



source: PNMC (2008)

- **June 2009:** At a meeting of the "Forum of Amazonian Governors" in Palmas - Tocantins, the Governors of the nine Amazon states signed a letter addressed to President Lula, stating support for zero deforestation in the region and calling on the Brazilian government to support the creation of market-based REDD mechanisms. The letter proposes the creation of a task force, composed of specialists indicated by the Amazonian states with support from the Federal Government, with the objective of proposing, within 30 days, recommendations for the Presidency of the Republic, with regard to positions to be adopted at COP 25 in Copenhagen. Finally, the letter proposes: i) the creation of a special institution within the Presidency of the Republic to coordinate preparation and implementation of a "national system for reduction of emissions", involving federal, state and municipal governments, private sector and civil society organizations, ii) organization of a mission of governors from the Amazon states to Copenhagen, led by President Lula, to "present the vision of the Brazilian Amazon regarding priority guidelines for a new international regime on climate change".

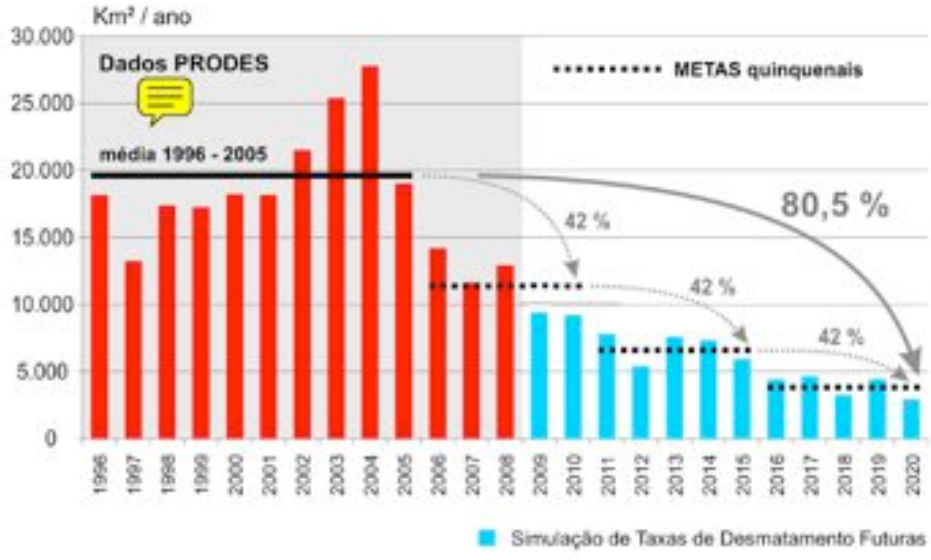
- **October 2009**: The Interagency Task Force on REDD and Climate Change, created by President Lula in response to the Amazon governors' proposal, presents its first report, recommending that the Brazilian government adopt "innovations" in its positions within the negotiating process of UNFCCC through support for three mechanisms of REDD financing: i) governmental

[13] See section 5 below for additional discussion on the design and implementation of PPCDAM, including its relevance to REDD.

financing, ii) market mechanisms without compensation (carbon offsets), and iii) market mechanisms for REDD with compensations for emissions from Annex 1 countries.[14] The Task Force recommends that a compensatory mechanism for REDD be linked to "incentives for Annex 1 countries to adopt targets and additional financial commitments, in the direction of a target of reductions of 40% by 2020". The report also calls for precaution so that "efforts in the negotiation of a compensatory mechanism for REDD don't negatively affect non-market compensatory mechanisms and nationally-appropriate mitigation actions (NAMAs)". These proposals received support from the Amazon governors at a meeting of in Macapá (AP) on October 17, 2009. [15]

- **October 2009:** At an inter-ministerial meeting with President Lula to discuss formulation of Brazil's positions at COP 15 in Copenhagen, the Ministry of Environment (MMA) presents a proposal that includes, *inter alia*, the recognition of NAMAs and REDD as compensation/offsets for emissions from developed countries, provided that: a) developed countries assume targets for emissions reductions superior to 25%, by 2020 in relation to a BAU scenario, and honor their financial commitments to the Adaptation Fund and mitigation actions in developing countries; b) developing countries have honored commitments to alter BAU trajectories, proposed at a 10-20% reduction by 2020. The MMA proposal envisions the elaboration of NAMAs in three areas to secure counterpart funding for Brazil to reinforce its National Climate Change Plan in a manner that would allow for reductions of up to 40% by 2020, in relation to a BAU scenario. These NAMAs would include: i) a Forest NAMA (REDD+ for Amazônia, Cerrado and Caatinga), ii) NAMA to increase use of biomass and other renewables for the production of energy, and iii) NAMA for implementation of "green" processing of iron ore ("siderurgia verde") through use of charcoal from reforestation instead of native forests. The Forest NAMA would involve additional support for the Action Plan for Prevention and Control of Deforestation in the Legal Amazon, with the establishment of more ambitious targets in relation to the National Climate Change Plan: a reduction of 42% in deforestation rates every five years, starting with the 2006-2010 period, using average annual clearing rates of 1996-2005 as a baseline. The proposed target would be a reduction of 80% in emissions from deforestation in the Brazilian Amazon by 2020, in comparison to the first reference period.

Five-Year Reduction Targets in Deforestation Rates for the Legal Amazon



source: Ministry of Environment (2009)

[14] http://www.amazonia.org.br/noticias/noticia.cfm?id=331775
[15] http://www.folhadoprogresso.com.br/folha3br2/modules/news/article.php?storyid=130

- **2007-2009:** Initiation of pilot REDD initiatives in Amazonian states (Mato Grosso, Pará, Acre, Amazonas, Rondônia, Amapá)[16]

5. REDD in the Brazilian Amazon: state of current debates and key challenges

5.1 *Creation of a favorable policy environment for REDD*

A fundamental challenge for the success of REDD in the Brazilian Amazon is the creation of a policy environment conducive to the conservation of forests, with due attention to such key issues as the rights of traditional communities, strengthening forest governance and addressing the drivers of deforestation. Such a favorable policy environment is clearly relevant to such goals as optimization of financial resources and the avoidance of "leakage" in the implementation of REDD initiatives.

In this regard, the valuing of ecosystem services of forests – such as climatic regulation, hydrological regimes, and biodiversity conservation – has yet to be effectively internalized within a series of relevant public policies (MMA 2005). On the other hand, much can be achieved through the effective implementation of existing policies. Herman Benjamin, one of Brazil's leading experts on environmental law, has argued that the country's most important contribution to reduced global emissions from deforestation should be the implementation of the country's advanced environmental legislation, particularly the Forestry Code (Federal Law 4.771/65) and Federal Law (Federal Law 9.985/2000) national system of conservation units.[17]

In recent years, important examples of advances in the creation of a favorable policy environment for promoting forest conservation and addressing the drivers of deforestation and degradation in the Brazilian Amazon have included the following:

a) Since the 1980s, the development of state-of-the-art capacity in remote-sensing based monitoring of deforestation in the Amazon, under the leadership of the National Institute for Space Research (INPE);

b) in March 2004, the launching of the "Action Plan for the Prevention and Control of Deforestation in the Amazon Region (PPCDAM)", prepared by an inter-ministerial working group in consultation with civil society organizations. Strategic lines of action were defined to address land tenure problems and territorial planning; monitoring, licensing and enforcement; sustainable management of forests and improved use of already-cleared lands; and sustainable infrastructure in the transportation and energy sectors;

c) During the period of 2003 - 2008, the creation of over 19 million hectares in new federal conservation units in the Brazilian Amazon, frequently in areas with intense pressures from illegal deforestation and predatory logging, such along the Cuiabá-Santarém (BR-163) in Pará state. Moreover, significant advances in the official recognition of indigenous lands, including the 1.7 million hectare Raposa Serra do Sol reserve in the state of Roraima;

d) In 2005, approval of an amendment to a federal law regarding the national system of conservation units, allowing the federal government to establish special "areas of

[16] For example, see examples of pilot initiatives in Mato Grosso and Pará in: "Paving the REDD Road in the Braziian Amazon" (IPAM 2009).
[17] Speech at the colloquium *"Mudanças Climaticas: Balanço de Políticas e Marco Legal*", University of Brasília, August 17, 2009.

provisional administrative limitations (ALAP)" as a means to restrict activities that may pose severe environmental risks where studies are being conducted for the creation of new conservation units;

e) in March 2006, approval of the "public forests management law" (Law 11.284) and creation of the Brazilian Forest Service;

f) in June 2006, the launching of a pioneer initiative to integrate a highway infrastructure project into a comprehensive sustainable regional development strategy (Plano BR-163 Sustentável), based on active participation of NGOs and social movements in the region.

g) In December 2007, signing of Presidential Decree no. 6321/07, establishing specific procedures to intensify efforts in combating deforestation in municipalities identified as "hotspots" of forest clearing, including a revision of private land titles (to identify fraudulent documents and illegal occupations) and restrictions on access to credit among rural properties lacking minimal proof of legitimate claims.

h) In February 2008, approval of Resolution 3545 of the National Monetary Council, linked to the Central Bank of Brazil, establishing requirements for proof of legitimacy of land claims and compliance with environmental legislation as a prerequisite for access to rural credit for agricultural and ranching activities in the Amazon biome.

i) In May 2008, initiation of preparations for state action plans for prevention of deforestation under the aegis of PPCDAM in the states of Acre, Mato Grosso, Tocantins and Pará.

Despite such progress, a series of recent government initiatives is clearing moving in contradictory directions, with significant implications for the drivers of deforestation and the success of REDD. Particularly relevant examples include the following:

- *Persistence of rural credit programs that prioritize extensive cattle ranching*: Between 1989 and 2007, a single credit program (*Fundo Constitucional do Norte – FNO*) invested US$ 3,5 billion in cattle ranching in the Brazilian Amazon. The Brazilian National Bank for Economic and Social Development (BNDES) has recently been highly criticized for its major role as a source of capital for expansion of huge beef-processing facilities in the Amazon, without due safeguards to avoid the purchase of cattle from areas of illegal deforestation (including indigenous lands) (AdT 2009, Greenpeace 2009). Within rural credit programs, little priority has been given to improving productivity and management of pastures on already-cleared lands, using techniques such as those developed by EMBRAPA. Implementation of the above-mentioned Resolution 3545 – particularly in terms of impacts on linking access to rural credit to compliance with land tenure and environmental legislation - has suffered from a lack of effective monitoring.

- *Large-scale infrastructure projects*: The *Programa de Aceleração do Crescimento* – PAC (Program to Accelerate Economic Growth), launched in February 2007, involves an ambitious portfolio of large-scale infrastructure projects, such as the Rio Madeira - hydroelectric dams and the paving of the BR-319 highway (Manaus - Porto Velho). The PAC has been marked by a reversion to conventional paradigms of economic growth, lobbying interests of powerful economic groups (such as construction conglomerates), patronage relations with regional political elites and the "politicization" of environmental licensing procedures. As a result, planning processes involving strategic analyses of socio-environmental impacts, economic efficiency and alternatives, involving multi-stakeholder

dialogue and conflict resolution, have been progressively marginalized (INESC 2007, International Rivers 2008).

- *Attempts to undermine the Brazilian Forestry Code and other environmental legislation*: Conservative politicians in the Brazilian Congress have recently undertaken a major offensive to weaken the Brazilian forestry code and related environmental legislation, particularly with regard to forest conservation on private landholdings. The Lula government has yet to adopt a clear position on this issue.

Recently, a highly controversial initiative was the signing of *Medida Provisória* (Provisional Executive Order) no. 458 by President Lula in February 2009, subsequently converted into federal law 11.952 in June 2009. This initiative has the stated objective of regularizing the land claims of small to medium squatters that occupied public lands in "good faith" in the Amazon region, with benefits that would ostensibly include improved compliance with forest and environmental legislation.[18] However, critics have argued that loopholes in the legislation are likely to favor land speculators, contributing to increased deforestation and social conflicts.[19]

A common element of the above initiatives is the fragility or even inexistence of decision-making processes that involve multi-stakeholder dialogue and transparency. In principle, a strategic initiative for reconciling contradictory policies and addressing the drivers of deforestation should be the *Action Plan for Prevention and Control of Deforestation in the Amazon Region* (PPCDAM). However, PPCDAM has often proven to be ineffective as an instrument for influencing key policies related to infrastructure planning, land tenure and agribusiness (Greenpeace, 2008). On the contrary, in a move emblematic of changing political orientations of the Lula administration, the "sustainable infrastructure" component of PPCDAM, part of the original design of the action plan, was removed without a clear explanation in March 2005. Despite relevant input from civil society organizations in the original design of the plan, there is still no institutionalized space for multi-stakeholder dialogue in the management model of PPCDAM.

Another strategic instrument for promoting a favorable policy environment for REDD should be the National Plan on Climate Change (*Política Nacional de Mudanças no Clima*). Notwithstanding the inclusion of actions and targets regarding the reduction of emissions from deforestation and forest degradation, this plan remains to be effectively operationalized in conjunction with other relevant initiatives, such as PPCDAM. Moreover, there are clear needs to enhance opportunities and institutional spaces for multi-stakeholder dialogue on implementation and revisions of the PNMC (e.g. Brazilian Forum on Climate Change – FBMC; Inter-ministerial Commission on Climate Change).

While the creation of a policy environment conducive to REDD is highly-dependent upon internal decision-making processes in Brazil, it is worth asking what contributions REDD and related initiatives (e.g. "early action", "readiness" and NAMAs) could offer within the context of such initiatives as PPCDAM and PNMC, particularly in terms of strengthening civil society participation and multi-stakeholder dialogue, strategic planning, capacity-building, transparency, and monitoring and evaluation.

It is noteworthy that, to date, no such clear links exist between the Amazon Fund and PPCDAM. Moreover, an open question remains the degree to which the multi-billion dollar lending portfolio of BNDES for such activities as beef processing and mega-infrastructure projects in the Amazon will be made compatible with the Amazon Fund and PPCDAM.

[18] http://www.bbc.co.uk/portuguese/lg/noticias/2009/08/090803_amazoniasaepc.shtml
[19] http://www.amazonia.org.br/noticias/print.cfm?id=320842

5.2 *Managing REDD funds in the Amazon: strategic priorities and risks*

The following points address key issues and debates in Brazil regarding strategic priorities and risks for implementation of REDD in the Amazon region:

a) Addressing the drivers of deforestation: As indicated above, there has been relatively little discussion in Brazil to date about how REDD funds may be linked to an overall strategy to address the causes or "drivers" of deforestation. Although the strategic guidelines of the Amazon Fund mention the need for compatibility of project funding with PPCDAM, it is not clear to what extent the fund will actually contribute to meeting this key challenge at the federal and state levels[20], especially when considering its complementary nature to other key policy initiatives. Nonetheless, it may be a argued that a strategic priority for the Amazon Fund could be to support "pacts" among different stakeholders at the local and regional levels, in order to facilitate the collective construction of solutions to address the underlying causes of deforestation and forest degradation, while promoting sustainable alternatives. Such "pacts" could be a means to integrate REDD with recent initiatives in territorial planning, such as the "*Territórios da Cidadania*".[21]

b) *Traditional populations and forest conservation:* Given the fundamental roles of indigenous peoples and other traditional populations - such as extractivists and riverine communities – in conserving large contiguous areas of forests in the Amazon, it has been argued that such contributions should be recognized within initiatives such as REDD+ (c.f. IPAM 2007, COIAB 2009). In this regard, key questions have been raised with regard to: i) the relationship between REDD+ and fundamental needs for land tenure security among indigenous and other traditional populations, ii) the importance of strengthening collective management of natural resources based on traditional knowledge, iii) challenges for REDD+ mechanisms, such as the Amazon Fund, to reach isolated forest communities and provide appropriate support for grassroots initiatives, including capacity-building and empowerment; and iv) needs for REDD+ programs to contribute to strengthening the subsistence base and income-generating capacity of local communities, avoiding risks of new forms of dependence on external funding. Finally, it has been argued that free, prior and informed consent should be carried out among traditional populations with regard to REDD projects that affect their territories and adjacent lands (Griffiths, 2008). [22]

c) *REDD and Protected Areas*: It has been estimated that the recent expansion of protected areas (conservation units and indigenous lands) in the Brazilian Amazon is responsible for as much as 37% of the significant reduction in deforestation rates between 2004 and 2008. Furthermore, it has been calculated that the combined protected areas of the Amazon may represent a reduction in carbon emissions through 2050 on the order of 8 billion tons, or three times the target of the Kyoto Protocol. Such estimates provide compelling arguments for the inclusion of protected areas among the beneficiaries of REDD funds. However, discussions on appropriate strategies to support protected areas within the context of REDD initiatives have only recently been initiated.[23]

d) REDD and avoided deforestation: In Brazil, considerable debate has emerged over how concepts of "compensated reduction" and "avoided deforestation" should be applied to the

[20] Since late 2007, the Ministry of the Environment (MMA) has supported the preparation of state plans for prevention and control of deforestation within the Amazonian states, beginning with Mato Grosso, Acre and Pará,

[21] Roberto Araújo, MPEG/INPE, personal communication.

[22] *Mudanças Climáticas e Povos da Floresta: Avançando a Discussão em Redução de Emissões por Desmatamento e Degradação Florestal (REDD) e Direitos dos Povos Indígenas e Tradicionais, Declaração de Manaus*, 04 de abril de 2008 http://www.coiab.com.br/coiab.php?dest=show&back=noticia&id=60&tipo=N&pagina=22

[23] c.f. "O Papel das Áreas Protegidas na Redução das Emissões por Desmatamento" WWF-Brasil, Ipam, and Linden Trust for Conservation, October 2009; http://www.wwf.org.br/?22140/Governo-recebe-documento-sobre-reas-protegidas-e-clima

distribution of REDD credits among individual states and private landowners. In the former case, critics have argued that REDD credits tend to be biased towards states with elevated historical rates of deforestation, such as Mato Grosso, and against those where forests have continued largely intact, such as Amazonas. An emerging consensus is that both types of situations (compensated reductions and maintenance of stocks) should be considered in REDD+ programs.[24] Recent proposals to "compensate" individual landholders for avoided deforestation as part of REDD mechanisms have raised the following questions:

- Given that a significant percentage of deforestation is practiced by occupants of public lands without legitimate titles, including "land grabbers" *(grileiros),* wouldn't REDD programs become engaged in "paying the criminals"?[25]

- Should private landowners be paid to comply with the Brazilian Forestry Code, in terms of maintenance of legal forest reserves and areas of permanent protection (APPs), or should REDD credits ensure *additionality*?

- How would issues of permanence be addressed in "compensated reduction" schemes on individual landholdings, given the ephemeral character of REDD payments? In a post-REDD scenario, to what extent would government budgets have the capacity to cover such payments to landholders?

- To what extent has enthusiasm over the prospect of international REDD schemes tended to divert attention from needed reforms in existing public policies, in terms of promoting sustainable management and maintenance of ecosystem services of forests (local and regional climate, hydrological regimes, biodiversity conservation)?

- How to ensure against "leakage", whereby economic activities associated with deforestation, such as beef production, simply migrate elsewhere to attend market demands?

According to Hermann Benjamin, an additional risk associated with the creation of new schemes to pay individual landholders for avoided deforestation and "environmental services" is the creation of a legal precedent for artificially inflating property values, in a manner that renders land expropriations for establishment of protected areas prohibitively expensive.[26]

e) REDD in the regional economy: It may be argued that REDD payments aimed at simply substituting economic activities linked to deforestation and forest degradation will tend to generate negative impacts on employment and local economies, given multiplier effects of conventional activities such as the timber industry. This argument is compatible with the notion that a strategic priority of REDD should be to support processes of economic transition from extensive practices of resource use, such as high-grading of timber and cattle ranching, towards activities based on the sustainable use of forest biodiversity and value-added through local processing industries, with due attention to addressing long-standing bottlenecks (Miccolis, 2008)..

[24] Another relevant issue for REDD+ is how to address situations where low rates of clearing have prevailed in recent years, due to the past decimation of forest stocks, but where efforts in forest rehabilitation are clearly warranted. See item "g": below on *REDD and reforestation/afforestation*

[25] According to Benatti and Araújo (2006), 67% of the total area occupied by rural landholdings in Pará state in 2006 had no documentation or were characterized by fraudulent titles. This situation is a particular challenge to REDD schemes that propose the use opportunity costs to landholders as a key variable in defining priority areas.

[26] Speech at the colloquium *"Mudanças Climaticas: Balanço de Políticas e Marco Legal*", University of Brasília, August 17, 2009.

f) *REDD and timber-based forest management*: At the international level, there has been considerable debate over whether timber-based forest management, especially at the industrial level, should be included within REDD programs. In particular, questions have been raised about the extent to which management plans in tropical forests can be classified as sustainable, and problems of additionality. In the Brazilian case, relevant challenges for REDD initiatives would also include improvements in technical assistance, monitoring of management plans and support for expanding independent certification mechanisms.

g) *REDD and reforestation/afforestation*: There is a need for further debate in Brazil regarding the inclusion of reforestation and afforestation in future REDD+ mechanisms. There appears to be considerable agreement in Brazil that afforestation and reforestation must not involve conversion of native vegetation to planted forests, and that reforestation be conducted with native species that are environmentally-appropriate. This topic is relevant to current discussions on implementation of the Brazilian Forestry Code.

h) Strengthening forest governance: Many recent studies and proposals have emphasized that REDD initiatives should be linked to the strengthening of forest governance in such areas as multi-stakeholder dialogue, institutional coordination, enforcement of forest legislation, transparency and capacity-building among local communities (*Pacto Desmatamento Zero* 2007; ICV 2008, 2009). In this regard, the management of the Amazon Fund poses important challenges, especially in terms of outreach to isolated local communities, with appropriate support for mobilization and participation from the initial phases of planning.

i) *Project monitoring*: Within the Amazon Fund, much remains to be defined in terms of strategies for monitoring projects, particularly with regard to: i) methods for estimating impacts on emissions from deforestation and degradation, with due consideration to potential countervailing forces in project areas, such as land speculation, inadequate law enforcement and market demands for beef and agricultural commodities, ii) monitoring complementary project objectives, such as capacity-building, biodiversity conservation and strengthening of local livelihoods, and iii) use of monitoring and evaluation systems as strategic tools in project management, as opposed to mere bureaucratic exercises.

j) *Reducing emissions in other biomes*: Notwithstanding the importance of the Amazon, there has been increasing debate in Brazil on the importance of reducing emissions in other biomes, especially the tropical savannah or *cerrado*. A new study has revealed that deforestation in the *cerrado* averaged 21.000 km^2 during the period of 2002-2008 - significantly higher than in the Amazon. During this period, the cumulative area cleared increased from 41.0% to 48.2% of the total area of the biome (approximately 2 million km^2). Currently, GHG emissions from deforestation and land use change in the *cerrado* are similar to those of the Amazon biome. Major drivers of conversion of the cerrado include cattle ranching, mechanized soybeans and other export-oriented agricultural commodities.[27]

5.3 Financing REDD in the Brazilian Amazon

There is still a high degree of uncertainty regarding the potential supply and effective demand for REDD funds in the Brazilian Amazon. On the demand side, it may be argued that new external sources of REDD funding should be linked to more efficient use of existing sources of domestic financing for activities such as implementation of protected areas (WWF-Brasil, 2009).

[27] See: *Estudo inédito aponta que o Cerrado já emite CO2 nos mesmos níveis que a Amazônia*, Portal EcoDebate, 11/set/2009,http://www.ecodebate.com.br/2009/09/11/estudo-inedito-aponta-que-o-cerrado-ja-emite-co2-nos-mesmos-niveis-que-a-amazonia/

Much of the controversy over REDD in Brazil has centered on the appropriateness of linking mechanisms of "compensated reduction" to international carbon markets. Similar to debates on REDD at the international level, most critiques in Brazil have focused on: i) the potential dangers of a massive influx of REDD credits for depressing international prices of carbon, ii) potential risks for industrial countries to use relatively cheap forest carbon credits as a means to circumvent urgently-needed transitions to low carbon economies,[28] and iii) difficulties in ensuring additionality, permanence and prevention of leakage.

Despite enduring controversy, there is growing agreement that if REDD is linked to carbon markets, safeguards such as maximum levels of fungibility will be needed to avoid: i) potential conflicts with efforts to promote transitions to low-carbon economies in non-Annex 1 countries and ii) a flood of cheap forest credits on the international market. Moreover, some NGOs have proposed minimum levels of fungibility with carbon markets, as a means to ensure more reliable sources of REDD financing.

A still unresolved issue of debate in Brazil is whether access to international REDD funding should be mediated by a national mechanism such as the Amazon Fund, or if state governments should be allowed to access funds individually through cap-and-trade agreements involving forest carbon markets, along the lines suggested by Amazonian governors.

There has been relatively little discussion in Brazil regarding the inherent unsustainability of REDD over the medium to long term, assuming that carbon offsets on the international market are linked to mechanisms of "compensated reduction" that employ a periodically-adjusted historical baseline. Alternative sources of long-term funding for REDD or REDD+ in Brazil, such as a tax on fossil fuels (exemplified by Norway's contribution to the Amazon Fund) have not yet been subjected to significant debate.

Finally, another topic that has received scarce attention in Brazil concerns demands and opportunities for financing "readiness" over the short to medium term, including capacity-building and measures to address drivers of deforestation. In this regard, the Ministry of Environment's just-unveiled proposal for counterpart funding for NAMAs for "early action" initiatives such as strengthening implementation of the Action Plan for Prevention and Control of Deforestation in the Amazon – PPCDAM is particularly relevant.[29]

[28] c.f. "Carta de Belém rejeita REDD no mercado de carbono", http://www.ipam.org.br/mais/noticiasitem/id/365, 10/16/09

[29] "Proposta do MMA para Construção da Posição do Brasil em Mudanças Climáticas", slide presentation of Ministry of Environment at meeting of the Brazilian Forum on Climate Change (FBMC) with President Lula, October 13, 2009.

ABBREVIATIONS

AdT – Amigos da Terra – Amazônia Brasileira
APP – *Área de Preservação Permanente* (Area of Permanent Preservation)
BASA – *Banco da Amazônia, S.A*. (Bank of the Amazon)
BNDES – *Banco de Desenvolvimento Social e Econômico* (Bank for Social and Economic Development)
CIMI – Conselho Indigenista Missionário (Indigeneous Missionary Council)
CNS - Conselho Nacional de Seringueiros (National Rubber-Tappers Council)
CPT – Comissão Pastoral da Terra (Pastoral Land Commission)
COIAB – Coordenação de Organizações Indiígenas da Amazônia Brasileira (Coordination of Indigenous Organizations of the Brazilian Amazon)
CONTAG – Confederação Nacional de Trabalhadores na Agricultura (National Confederation of Agricultural Workers).
COP – Conference of the Parties
CU – Conservation Unit
DETER – *Sistema de Detecção do Desmatamento em Tempo Real* (System for Detection of Deforested Areas in Real Time**)**
EMBRAPA – Empresa Brasileira de Pesquisa Agropecuária (Brazilian Enterprise for Agricultural and Livestock Research)
FBOMS – *Forum Brasileiro de ONGs e Movimentos Sociais* (Brazilian Forum of NGOs and Social Movements) Region)
GTA – *Grupo de Trabalho Amazônico* (Amazon Working Group)
IBAMA – *Instituto Brasileiro do Meio Ambiente e Recursos Naturais Renováveis* (Brazilian Institute of Environment and Renewable Natural Resources)
IBASE – Instituto Brasileiro de Analises Sociais e Econômicas (Brazilian Institute for Social and Economic Analysis)
IBGE – *Instituto Brasileiro de Geografia e Estatística* (Brazilian Institute of Geography and Statistics)
IFI – Instituição Financeira Internacional (International Financial Institution)
IIRSA – Iniciativa de Integração Regional da Infraestrutura Sul-Americana (Iniciative for the Regional Integration of South American Infrastructure)
IMAZON - Instituto do Homem e Meio Ambiente da Amazônia (Institute for Man and the Environment)
INCRA – *Instituto Nacional de Colonização e Reforma Agrária*(National Institute for Colonization and Agrarian Reform).
INPE - *Instituto Nacional de Pesquisas Espaciais* (National Institute for Spatial Research) National Institute for Space Research
IPAM – Instituto de Pesquisa Ambiental da Amazônia (Institute for Environmental Research in the Amazon)
IPEA - *Instituto de Pesquisa Econômica Aplicada* (Institute for Applied Economic Research)
ISA – Instituto Socioambiental (Socioenvironmental Institute)
IUCN – International Union for the Conservation of Nature
MCT – Ministério da Ciência e Tecnologia (Ministry of Science and Technology)
MMA – Ministério de Meio Ambiente (Ministry of the Environment)
MOU – Memorandum of Understanding
NAMA – Nationally-Appropriate Mitigation Action
NAT – Núcleo Amigos da Terra - Brasil
NGO – Non-Governmental Organization
PAC - Programa de Aceleração do Crescimento (Program to Accelerate Economic Growth).
PNMC – Plano Nacional sobre Mudança do Clima (National Climate Change Plan)
POLONOROESTE – Northwest Brazil Integrated Regional Development Program
PPCDAM - *Plano de Ação para Prevenção e Controle do Desmatamento na Amazônia Legal* (Action Plan for Prevention and Control of Deforestation in the Legal Amazon)
PRODES – *Programa de Cálculo do Desmatamento na Amazônia* (Program for Calculation of Deforestation in the Amazon)
PVEA – Plano de Valorização Econômica da Amazônia (Plan for Economic Valorization of the Amazon)
REDD – Reduced Emissions from Deforestation and Degradation
RESEX – *Reserva Extrativista* (Extractive Reserve)

SBSTA - Subsidiary Body for Scientific and Technological Advice
SFB – Serviço Florestal Brasileiro (Brazilian Forest Service)
SNUC – *Sistema Nacional de Unidades de Conservação* da Natureza (National System of Conservation Units)
SUDAM – Superintendência de Desenvolvimento da Amazônia (Superintendency for Development of the Amazon)
SPVEA - Superintendência do Plano de Valorização Econômica da Amazônia (SPVEA).
TNC – The Nature Conservancy
WWF – Worldwide Fund for Nature

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