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Environmental Program

Mid-Term Update of Country Analysis of Tropical Forests and Biodiversity Conservation

Sections 118/119 of the Foreign Assistance Act

September 2009

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1. Introduction

As part of strategic planning documentation, USAID/Brazil is required by Sections 118 and 119 of the US Foreign Assistance Act to develop an analysis of tropical forests and biological diversity in Brazil.

The last assessment was conducted in FY 2008 and considered a five-year period (FY 2007 – FY 2011) for the analysis, aiming to provide both an update of the previous FY 2003 - FY2007 Country Analysis and recommendations for future activities (see the complete document in Reference section link).

Since that time, no significant changes have occurred in the status of the management and conservation of biodiversity and tropical forests in Brazil. However, at the mid-term point of the reporting period, an update of recent figures, such as deforestation rates, is appropriate to support decision-making on future Mission activities in the upcoming years.

Therefore, this report is not a thoroughly review of FY 2008 assessment. It aims to provide an update on relevant figures and facts affecting the status and management of forests and biodiversity.

2. Economic Context

Annual GDP growth rose to 4.7% on average during 2004-08, more than double the outturn of the previous five years that had followed the floating of the *real*. Faster growth is delivering tangible improvements in the distribution of income (see OCDE reference).

Brazil was able to weather the global financial crisis with relatively minor impacts. The country was one of the last to go into recession in 2008 and among the first to resume growth in 2009. The Growth Acceleration Plan launched in 2007 to increase investment in infrastructure and provide tax incentives to encourage faster and more robust economic growth is credited as one of the major factors behind the country's 5.1% growth in 2008 and its quick recovery from the crisis.

Brazil experiences extreme regional differences, especially regarding health, infant mortality and nutrition indicators. Indicators in the richer South and Southeast are normally much better than in the poorer North and Northeast regions. Although steadily decreasing, poverty and inequality remain at relatively high levels for a middle-income country. The country also faces important development challenges in areas that include the combination of the benefits of agricultural growth, environmental protection and the sustainable development the Amazon and other biomes (see the World Bank Brazil country study).

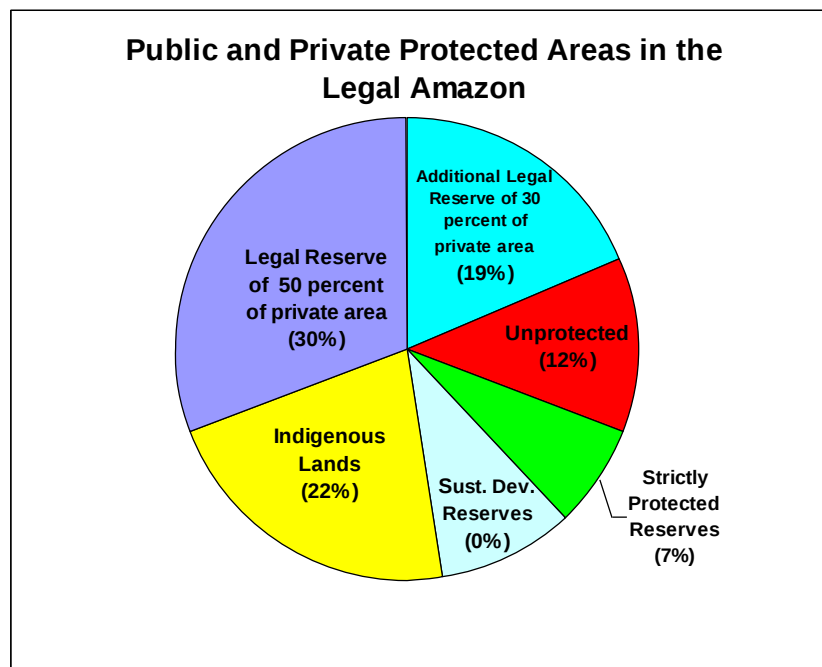
3. Status of Biodiversity

Brazil is South America's biggest nation and is one of the most biologically diverse countries on the planet, hosting two biodiversity hotspots: the Atlantic Rain Forest and *Cerrado*. The *Cerrado* region of Brazil, comprising 21 percent of the country, is the most extensive woodland-savanna in South America.

Most of Brazil's northern half is covered by the Amazonia wilderness – the largest tropical forest in the world – which contains a massive amount of unique plants and wildlife. Amazonia shelters as much as a third of the Earth's species, including 30,000 plants unique to the region. The Amazon also plays a key role in regional and global carbon cycles and climate.

Brazilian environmental legislation and Indigenous Peoples legislation is among the most advanced in the world, including Brazil's Forest Code, which requires that a portion of all private farmland be left in its natural state and a system of conservation and Indigenous Reserves that covers nearly 40% of the Amazon.

Overall, Brazil set aside 523,592 square kilometers of protected areas between 2003 and 2009. The vast majority of new protected areas in Brazil were established in the Amazon. Perhaps in part as a result of this effort, deforestation in the Brazilian Amazon has fallen by more than half since peaking in 2004.



Source: Schneider, R. *Notes on Brazil Country Strategy*. Sept, 2009.

4. Status of Tropical Forests

Brazil's Environment Ministry (MMA) announced on September 1st, 2009 that the annual deforestation rate of the Amazon rain forest has fallen 46% in relation to the previous year (2008) and is now at its lowest level in the past 21 years. MMA estimated between 8,500 and 9,000 square kilometers were destroyed in the reporting period, compared to 12,900 square kilometers in the same period a year earlier. These figures are based on a report by Brazil's National Institute of Space Research (INPE) for the region in the 12 previous months (Aug/08 – July/09). It is worth noting that, from 2003-2004 to 2006-2007, annual deforestation totals fell from 27,423 km² to 11,532 km².

The destruction of the rain forest made up 75 percent of Brazil's greenhouse gas emissions in 1994 but has dropped to around 60 percent of current emissions, according to MMA. MMA attributed 90 percent of the deforestation reduction to improved enforcement. Experts give authorities some credit for the trend, but lower commodity prices resulting from a global economic crisis were also a factor. The states with the largest deforestation reduction were Rondonia and Mato Grosso, both in the southwestern region of the Amazon. Mato Grosso is one of the country's leading farm states.

5. Threats to Biodiversity

In recent years Brazil has become at the same time both an agricultural powerhouse as well as an innovator in policies and practices to preserve its tropical forest resources. Forty percent of the Brazilian Amazon is already set aside in official protected areas, while Brazil's Forest Code could allow a significant additional portion of the Amazon to be conserved. This is not to say that expansion of the economic frontier into areas of high biodiversity value does not clash with attempts to consolidate conservation gains.

But even though much of Brazil's savanna heartland has been converted to agricultural use over the past three decades, a significant portion of Brazil's tropical forest resources, as much as 80% by some estimates, are still capable of being conserved in the Amazon. Establishment of protected areas continues to be necessary, but not sufficient, to conserve biological diversity and achieve climate stability in Brazil's humid tropical forest zones. Forest conservation on private lands is both necessary and achievable as a complement to establishment of official protected areas.

The Amazon forest plays an important role in both regional as well as global climate stability. It is the storehouse of biological diversity in Brazil's humid tropical forest zones (the Atlantic Forest, the wooded savanna *Cerrado*, and the Amazon forest biome), and scientific evidence points to the powerful climate

regulatory function of the Amazon forest, which produces over 50% of the rainfall in center-west Brazil through forest evapotranspiration.

This being the case, not only is the forest itself vulnerable to global warming, but the productivity of rain-fed agriculture is at risk in Brazil's principal growing regions. Researchers call attention to the risk of triggering the "tipping point," the level of deforestation at which the Amazon forest would lose its natural resilience to fire, decrease its water cycling function, and cease to supply reliable rainfall for agriculture.

6. Actions Needed to Conserve Biodiversity

Whether the objective is to preserve biodiversity or to reduce emissions of greenhouse gases, strategic action in the Amazon requires improving the capacity and incentives to effectively implement these existing laws. Combining effective implementation of Brazil's Forest Code with effective protection of existing protected areas (indigenous and biological) would help protect at least 70-90% of the Amazon.

There are several reasons to focus on these land use categories. First, 31 to 50% of the Amazon is potentially protected in private lands, 22% in indigenous lands, and 17% in conservation areas (see chart in section three above). Second, government institutions exist to protect these areas. USAID actions could help strengthen the government's existing framework.

Severe inequality is a fact of life in the Amazon. As a rule of thumb, the poorest 80 percent of the population control 20 percent of the land, and the richest 20 percent control 80 percent of the land. This fact suggests that USAID's poverty reduction focus should be directed to the many poor smallholders who, because of their limited land holdings, have a relative minor impact on overall deforestation and greenhouse gas emission. To achieve scale in *emissions reduction*, however, USAID must work with the 20 percent of the farmers who represent the commercial agriculture sector and make the land-use decisions that affect 80 percent of the land.

Curtailing tropical deforestation is vital to U.S. national interests as a cost-effective means to slow climate change, argues a new report issued by the bipartisan Commission on Climate and Tropical Forests. Deforestation accounts for more than a sixth of global carbon dioxide emissions, more than the entire transportation sector. The report, titled "Protecting the Climate Forests: Why reducing tropical deforestation is in America's vital national interest," calls for American leadership on a global effort to halve emissions from deforestation by 2020 (see report at www.climateforestscommission.org).

7. Government of Brazil Initiatives

Brazil has a developed environmental policy framework, to which steady and significant improvements have been made over the last three decades. The Constitution of 1988 dedicated a specific chapter to the environment and defined the broad competence of the various levels of government: federal, state and municipal. Most of the environmental licensing and enforcement is under the responsibility of municipal and state agencies.

Relevant legal bases include the National Environmental Policy Law (1981), the Environmental Crimes Law (1998), the Forest Code (created in 1965, amended in 1996 and 2001), the Conservation Units National System Law – SNUC (2000), and the National Water Resources Management System (SINGERH).

Compliance with environmental legislation is best in the most developed states, notable those in the Southeast and Southern regions of Brazil, which have sound state agencies and where the larger municipalities have municipal environmental agencies. Northern states face additional challenges in enforcing the law due to the great distance between cities and the remoteness of many areas.

Regarding recent relevant initiatives, the following actions may be mentioned:

- i) The National Climate Change Action Plan - NCCAP was approved by the Climate Change Inter Ministerial Committee and submitted for public consultation. The NCCAP proposal presents a balanced set of command-and-control and economic instruments covering both mitigation and adaptation actions.
- ii) The Green Protocol (GP), signed by Brazil's federal banks, is a marked improvement over the 1995 version and strengthens the GOB'S commitment to support environmentally sustainable activities. The signatory banks have agreed to promote policies and procedures aimed at financing development with environmental responsibility through lines of credits and programs that enhance the quality of life of the population, promote the sustainable use of natural resources and incorporate environmental protection.
- iii) The Plan to Prevent and Combat Deforestation in the Amazon (PPCDAM) was launched in 2003 in response to increased deforestation. The PPCDAM involves fourteen different ministries that developed and are implementing an integrated strategy to address the issues of deforestation, biodiversity loss and unsustainable agriculture and livestock production. This integrated strategy combines actions to improve the policy framework and regional land use planning, strengthen institutions that focus on natural resource management and biodiversity conservation, and curb illegal practices.

iv) The Amazon Fund was established as an alternative to receive compensation for reducing CO2 from deforestation without having to rely on market-based mechanisms. The Amazon Fund will support the prevention, monitoring and combating of deforestation, and the promotion of conservation and sustainable use of natural resources in the Amazon, fully in line with the Sustainable Amazon Plan (PAS) and the Plan to Prevent and Combat Deforestation in the Amazon (PPCDAM). The Fund will operate through grants focusing on the following activities: (i) forest management in public lands; (ii) management of protected areas; (iii) monitoring and enforcement of environmental laws; (iv) sustainable use of forest resources; (v) zoning and land regularization; (vi) biodiversity conservation and sustainable use; and, (viii) rehabilitation of degraded areas. The Fund is managed by the National Bank for Economic and Social Development (BNDES) and will be capitalized only through donations from bilateral and multilateral agencies and the private sector.

8. USAID Proposed Strategy

USAID has been a steady and reliable development partner for the past two decades, contributing to Brazil's search for conservation and development solutions in tune with local realities and the needs of local populations. The Amazon is not an empty space to be set aside as a sanctuary - over twenty-five million Brazilians live and work in the region. The Atlantic Forest region is home to Brazil's historic cities and industrial production centers. And the *Cerrado* region, once believed to be infertile wasteland, has become Brazil's breadbasket.

It is in Brazil's best interest, and that of the global community, to combine the capacity of local individuals and institutions with sound policy and management practice to achieve sustainable landscapes that conserve biological diversity, stabilize climate, and establish a basis for sound economic growth. For the period 2010-2014, under Assistance Objective 1, USAID/Brazil proposes to take steps toward achievement of this goal.

Since the inception of its conservation activities almost twenty years ago, USAID/Brazil has become one of the principal contributors to building the capacity of Brazilian institutions and individuals to reconcile conservation approaches with Brazil's development needs and ambitions. USAID's focus has been and will continue to be on capacity-building of institutions and individuals living on Brazil's economic frontiers – those areas still undergoing pressure to convert native forests and grasslands for economic use. Frequently, these local populations are vulnerable to turmoil with the uncontrolled advance of these economic frontiers. These excluded groups demand and deserve a voice in regional development plans. To the extent that the needs and economic well-being of local populations are included in development decisions, sustainable landscapes are more likely to be achieved.

Traditional populations in the Amazon have acquired innate, intimate knowledge of their surroundings that can be combined with scientific knowledge to improve the management of community-held natural resources. Satellite mapping techniques are now accessible to local groups and can help them plan and manage sustainable landscapes. By supporting the capacity of local groups, local environmental governance can be reinforced as a pre-condition for stable forest-based economic development, avoiding the haphazard boom-bust development typical of frontier economies. With the predicted advent of a warmer, dryer climate, both the threat of fire and the need to mobilize local resources to combat fire will increase. USAID proposes to support fire preparedness and combat at the community level under the Strategy presented here.

Brazil is a pioneer in establishment of innovative protected area models, such as extractive reserves and sustainable development reserves – areas set aside for official protection, fully integrated with involvement of local populations. In addition, Brazil has set aside over 21 percent of the Brazilian Amazon in fully demarcated indigenous reserves. In fact, over 40 percent of the Amazon has already been designated as some form of official protected area. Other biomes, such as the *Cerrado* and Atlantic Forest region, have much smaller percentages of land area under official protection and are therefore much more vulnerable to encroachment and accidental fire.

These official protected areas in Brazil's humid forest biomes are significant storehouses of biological diversity and contribute in a major way to climate stabilization. However, designation and demarcation are not enough to achieve effective protection of these areas. Management plans must be developed, on-site guard protection must be established, and resources must be secured to protect these areas in perpetuity. In the upcoming Strategy period, USAID/Brazil intends to continue supporting partnerships with Brazilian government institutions at the federal, state and municipal levels to help establish effective management of official protected areas. USAID proposes to support partnerships between U.S. and Brazilian government entities that are members of the Protected Areas Working Group, established as part of the U.S.-Brazil Common Agenda for the Environment.

In addition to those protected areas designated under the Brazilian SNUC protection system (National System of Protected Areas), there is a special need to devote attention to areas designated for protection as indigenous lands. Federal and state level protection of indigenous lands obviously involves not just protection of the perimeters of reserves, but requires attention to the welfare and needs of diverse indigenous populations. And although current Brazilian legislation does not grant full autonomy for local management of natural resources on indigenous lands, in fact, local populations are increasing engaged in management decisions and are the first line of defense against encroachment by non-indigenous settlers and land grabbers. Capacity building and support for

local efforts to manage forest resources in the ethno-environmental corridors of the western Amazon can help assure the long-term and climate change value of these landscapes.

Passage of Brazil's historic 2006 Public Forest legislation¹ establishes the precedent that Brazil's vast formerly unclaimed public lands should be both claimed by the government itself and managed through concession bidding for the public good. Managing public forest lands for multiple and sustainable use represent both a huge opportunity and a major challenge for Brazil. USAID intends to continue support for the strong partnership between the U.S. Forest Service and the new Brazilian Forest Service, the Chico Mendes Institute for Biodiversity Conservation, the Brazilian Institute for Environment and Renewable Natural Resources – IBAMA, and the Environment Ministry, as a basis for exchange of experiences and capacity-building in sustainable forest management, including public use of these protected areas for sustainable tourism.

Perhaps the strongest, most unexpected recent opportunity to achieve sustainable landscapes in Brazil's humid forest biomes comes from recent awareness on the part of the Brazilian private sector and their international partners that the reputations of their enterprises are at risk unless they are seen as supportive of responsible stewardship in the production of agricultural commodities – especially on Brazil's economic frontiers. In rapid succession in mid-2009, the largest Brazilian meat processing firms (one of them now the world's largest meat processor) have pledged to purchase only cattle grazed on properties that are in full legal compliance with Brazil's strict Forest Code conservation set-aside legislation and whose occupants have legal title to that land. Brazil's Forest Code legislation, although currently subject to revision, requires that at least 50 percent and as much as 80 percent of private properties be set aside as forest reserves. In the Amazon alone, the potential area of on-farm forest conservation equals that of all official protected areas combined, while in the *Cerrado*, on-farm conservation of gallery forests may be the best hope to effectively protect the headwaters of southeastern Amazon tributaries. The meat processors' action parallels that of grain traders, who recently put similar restrictions on their soybean sources.

In FY 2010-2014, USAID/Brazil intends to support development of methodologies to monitor, report, and verify land use-based greenhouse gas emissions in Brazil's humid forest biomes. These are the areas that are undergoing rapid expansion of the agricultural frontier and are most vulnerable to biodiversity loss and climate destabilization. Grain traders and meat processors who source commodities in the *Cerrado* and Amazon regions need to understand the carbon cycle implications of land conversion, including displacement of pastures by soybeans and bio-fuel operations. Industrial greenhouse gas protocols

¹ This law is known as "Management of Public Forests Law", Law Number 11,284 of March 02, 2006, which establishes the Brazilian Forest Service and other forest management tools.

developed with USAID support need to be adapted for vegetation types and land-use cycles unique to Brazil.

One of the most surprising developments on the Amazon frontier, a consequence of stepped-up enforcement on the part of the Brazilian government, is willingness of local governments to buy into deforestation reduction or even zero-deforestation strategies. Municipal governments in some of the highest deforestation areas are now asking for help to straighten out land titling, register compliance with environmental rules (Forest Code), and develop land suitability maps (*zoneamento*) to guide future growth. USAID sees a critical need to facilitate this legal compliance through local partner organizations, while continuing to support strategic satellite-base monitoring of land-use trends for at least the next five years.

As negotiations continue on post-Kyoto options to mitigate greenhouse gas emissions, Brazil is in a unique position to benefit from some form of “compensated reduction” in forest-based emissions. At the time this strategy is being prepared, it is too early to speculate whether REDD (Reduction in Emissions from Deforestation and Forest Degradation) or some other mechanism will be available to compensate land owners or land stewards for avoided deforestation. However, Brazil is in the forefront of discussions on possible forms of payments for ecosystem services, be they protection of carbon, water, or biodiversity. In addition to avoided emissions, Brazil also stands to benefit from forest and land-use practices that enhance carbon stocks.

Therefore, USAID/Brazil will be prepared, under the Strategy being proposed, to help local groups explore options under future climate framework agreements to benefit both from avoided land use-based emissions and from enhancement of carbon stocks in soils and forests.

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