

**Inadequacies of the Amazon Fund: Evaluating Brazil's Sovereignty in the Context
of Promising Market Mechanisms and the Need for International Oversight to
Protect the Amazon Rainforest**

By Paige Mason

I. Introduction

Most people on this planet could probably assent to three general conclusions about the Amazon rainforest today: unchecked burning or logging of the Amazon is an unwise idea because of a multitude of known and unknown environmental ramifications; the Amazon rainforest is still being destroyed by many of the same economic and climatic drivers as twenty years ago; and the Amazon will continue to deteriorate without international aid to the Amazonian nations that directly benefit the people. Many people in Latin America might not assent, however, to Al Gore's statements in 1989 that "[c]ontrary to what the Brazilians think, the Amazon is not their property, it belongs to all of us."¹

I will first introduce the reader to the subject anew with a concise explanation of the present drivers of change in the Amazon followed by three possible scenarios for the Amazon rainforest in order to emphasize the continually escalating crisis. Second, I will offer a brief introduction to international law in general as well as Brazil's present legal protection framework in order provide a context for a discussion of the Amazon Fund.

¹ Alex Barrionuevo, *Whose Rain Forest Is This, Anyway?*, THE NEW YORK TIMES, May 18, 2008, available at <http://www.nytimes.com/2008/05/18/weekinreview/18barrionuevo.html?scp=1&sq=who's%20rainforest%20is%20it%20anyways?&st=cse>.

The Amazon Fund is Brazil's newest creation and it is a voluntary fund intended to garner donations for sustainable development and rainforest conservation programs. My paper's emphasis on Brazil is very important because Brazil contains about 60% of the Amazon basin (roughly the size of the European Union or 4 million km²) within its borders.² The "Legal Amazon", as defined in 1966, occupies approximately 50% of Brazil's territory and encompasses the Brazilian states of Acre, Amazonas, Roraima, Amapá, Pará, Rondônia, Mato Grosso, Tocantins and Maranhão.³ The rest of the rainforest is widely dispersed among eight other Latin American nations. Thus, any initiative to preserve the Amazon rainforest necessarily depends on Brazilian cooperation. In analyzing the inherent problems with a voluntary entity such as the Amazon Fund, I will address past innovations (e.g. debt-for-nature swaps) as a continuously viable alternative that is consistently overlooked by Brazil. Lastly, I will discuss carbon credits as another potential means of donator oversight in lieu of other more sovereignty-limiting rewards (such as equity rights to Brazilian assets).

As my paper will demonstrate, Brazilian environmental laws may be adequate on their face by enunciating a general commitment to protect the Amazon, and the Amazon Fund's does demonstrate some level of innovation and commitment to sustainable development. However, Brazil's continuing emphasis on exclusive sovereignty will dampen any success that the Amazon Fund can have in the context of today's precarious international economy. Many nations will be unwilling to contribute to Brazil's conservation "services" without some sort of tangible oversight and enforcement or

² GIULIO VOLPI, CLIMATE MITIGATION, DEFORESTATION AND HUMAN DEVELOPMENT IN BRAZIL 4 (UNDP Human Development Report 2007/2008), *available at* http://hdr.undp.org/en/reports/global/hdr2007-2008/papers/volpi_giulio.pdf.

³ *Id.*

compensation mechanisms. The Amazon Fund also does not appear to appreciably strengthen non-governmental organizations' roles in the new programs, as compared to their increased roles in debt-for-nature transactions and other international law forums.

II. The Amazon Today

A. Climate Change and Forest Fires

The majority of climate change theories converge upon the basic idea that the Amazon is becoming drier and drier. Moreover, as logging thins out the forest cover and industries such as cattle ranching destroy the rest of the rainforest, more sunlight is able to penetrate the forest cover. One especially frightening global circulation model (GCM) interpreting the trend towards increasingly dry conditions predicts that savanna-like ecosystems will replace the canopy forests by the end of the century as part of a "die-back" cycle.⁴

As a 2007 research paper for the Worldwide Fund for Nature (WWF) explains, heating and drying of the forest floor is the major determinant of forest flammability.⁵

⁴ Timothy Killeen, a research scientist at Conservation International's Center for Applied Biodiversity Science (CABS), analyzes the environmental effects of the Initiative for the Integration of the Regional Infrastructure of South America (IIRSA) plan in his report. IIRSA is an initiative to link South American nations by integration transportation, energy and telecommunications sectors. IIRSA is composed of ten "hubs" and each hub's project focuses on highways, waterways, railroads, pipelines, etc. Most projects are financed by loans from three financial institutions (Inter-American Development Bank, Andean Development Corporation and the Financial Fund for the Development of the River Plate Basin). TIMOTHY J. KILLEEN, A PERFECT STORM IN THE AMAZON WILDERNESS: DEVELOPMENT AND CONSERVATION IN THE CONTEXT OF THE INITIATIVE FOR THE INTEGRATION OF THE REGIONAL INFRASTRUCTURE OF SOUTH AMERICA (IIRSA) 58 (Advances in Applied Biodiversity 7th ed. 2007), available at http://library.conservation.org/portal/server.pt/gateway/PTARGS_0_122814_129379_0_0_18/AABS.7_Perfect_Storm_English.low.res.pdf.

⁵ DANIEL C. NEPSTAD, THE AMAZON'S VICIOUS CYCLES: DROUGHT AND FIRE IN THE GREENHOUSE; ECOLOGICAL AND CLIMATIC TIPPING POINTS OF THE WORLD'S LARGEST TROPICAL RAINFOREST, AND

For example, 3,000 km² of standing forest burned in the southwest portion of the Amazon during a drought in 2005.⁶ Oftentimes, the slash-and-burn tactics of farmers are the main sources of ignition and because pockets of forests are often “juxtaposed with fire-prone pastures,” the fire spreads quicker than it would under natural conditions.⁷ All in all, forests are more likely to become degraded by fire when

(a) high levels of tree mortality are induced by drought, fire or logging, (b) seeds, or spores, of high-fuel grasses, ferns or bamboo are abundant following tree mortality, (c) ignition sources are present, and (d) the forest is subjected to severe seasonal or episodic drought.⁸

The trees in the Amazon rainforest store incredible amounts of carbon (90-140 billion tonnes), which is equivalent to a 2007 estimate of 9 to 14 years of global human-induced carbon emissions.⁹ Scientific experts presently identify two primary causes of global warming causing emissions: general deforestation and the burning of fossil fuels.¹⁰ In the case of general deforestation, the carbon will be converted to carbon dioxide slowly by the decomposition of wood or as the trees are burned.¹¹ Another GCM that Killeen discusses in his paper IIRSA postulates that tropical plants will continue to absorb less carbon through photosynthesis than is released by soil respiration.¹² Thus, the Amazon will actually be a net source of carbon as the region becomes dryer and dryer, in

PRACTICAL PREVENTIVE MEASURES 9 (WWF International 2007), available at <http://www.worldwildlife.org/climate/WWFBinaryitem3845.pdf>.

⁶ *Id.*

⁷ VOLPI, *supra* note 2, at 18.

⁸ *Id.* at 11.

⁹ *Id.* at 7.

¹⁰ Jacqueline Klosek, *The Destruction of the Brazilian Amazon: An International Problem*, 6 CARDOZO J. INT'L & COMP. L. 119, 129 (1998).

¹¹ VOLPI, *supra* note 2, at 19.

¹² KILLEEN, *supra* note 4, at 7.

addition to deforestation through burning or basic logging.¹³ The aforementioned GCM is based on the response of the Amazon ecosystem to dryer phases of El Niño, where the Amazon definitively became a net source of carbon due to increased respiration and wildfire.¹⁴

B. Biodiversity, Deforestation and Economic Drivers of Change

The Amazon rainforest has “greater biological diversity than any other region in the world.”¹⁵ Amazingly, the Amazon rainforest is home to one out of every four or five fish, mammal, bird and tree species in the world.¹⁶ The Amazon’s river system is the world’s largest freshwater ecosystem and many of the species contained within it migrate between the flood plains and the rivers.¹⁷ Unfortunately, it is very, very difficult to quantify the value of biodiversity in terms other than simply potential for new food sources, medicines or pesticides.¹⁸ For example, loss in large mammals could be valued by what it might cost a country to replace them, but this valuation is also somewhat vague.¹⁹ Tourism is presently not a great enough source of revenue to protect biodiversity because user fees for national parks are usually low and there are no systems of local taxes allowing tourist revenues to contribute to local governments.²⁰

¹³ KILLEEN, *supra* note 4, at 26.

¹⁴ *Id.*

¹⁵ Klosek, *supra* note 10, at 131.

¹⁶ NEPSTAD, *supra* note 5, at 7.

¹⁷ KILLEEN, *supra* note 4, at 50.

¹⁸ *Id.* at 54.

¹⁹ *Id.*

²⁰ *Id.*

Furthermore, much of the Amazon rainforest is impenetrable and does not facilitate convenient ecotourism.²¹

The current deforestation rate in the Amazon as a whole is 28,240 km²yr⁻¹ (1.3 billion tonnes of annual CO₂ emissions, where a tonne equals 1000 kilograms).²² The INPE estimated that 4,600 square miles of Brazilian Amazon rainforest were cleared between August 2007 and July 2008, a 3.8% increase from the previous year.²³ Increased deforestation trends seem to be directly linked to commodity market prices, when combined with a one-year lag.²⁴ More than ever, a solution to the Amazon problem needs to be internationally and economically focused. Latin America's economic emphasis has historically been in commodities and the Amazon rainforest continues to be a casualty of boom-and-bust cycles.

Deforestation is attributable to powerful economic drivers (cattle ranching, pharmaceutical developments, hydrocarbon exploration, hydroelectric power plant expansion, etc.) as well as environmental forces such as climate change. Furthermore, a majority of deforestation, at least in the case of Brazil, also derives from "large-scale well-capitalized landowners" as opposed to poor people because large-scale forest clearing can be costly.²⁵

²¹ *Id.* at 56.

²² KILLEEN, *supra* note 4, at 58.

²³ *Amazon Deforestation Rises Slightly to 4,600 square miles in 2008*, MONGABAY.COM, Nov. 28, 2008, <http://news.mongabay.com/2008/1128-amazon.html>.

²⁴ *Brazil and the Amazon: Welcome to our Shrinking Jungle*, ECONOMIST, June 5th, 2008, http://www.economist.com/world/americas/displaystory.cfm?story_id=11496950.

²⁵ Poor people are allegedly responsible for 18-25% of deforestation in the Brazilian Amazon. VOLPI, *supra* note 2, at 6.

Cattle ranches have historically been one of the biggest sources of deforestation in the Amazon basin. In fact, 80% of the growth in the Brazilian national livestock herd in the last decade has occurred in Amazonian states.²⁶ Cattle ranchers are now able to use new types of forage grasses, vitamins and rotational grazing to control weeds to make ranches even more sustainable.²⁷ Also, the fact that Brazilian cattle do not have mad cow disease has made them even more competitive in the international market, especially when combined with Brazil's elimination of foot and mouth disease in several regions.²⁸ However, cattle ranching is still much less efficient than other uses of land because the lands are often abandoned after a few years of use; some estimations claim that in order to make \$1 million a year from raising cattle in the Brazilian Amazon, approximately thirty-eight square miles of forest need to be cleared.²⁹ Alternatively, mining or timber operations require less than one square mile to produce the equivalent return.³⁰ Because low-density cattle ranching is a much lower risk than corn, rice or soybean cultivation, the possibilities become even more lucrative in light of the expanding international demand for beef.³¹

Much of the potential expansion for cropland in the Amazonian nations is attributable to a recent focus on biofuel production because of continually rising oil prices. Brazilian ethanol from sugar cane seems to have the greatest potential for expanded production.³² According to Killeen, however, cultivation of African oil palm

²⁶ KILLEEN, *supra* note 4, at 23.

²⁷ *Id.*

²⁸ *See* KILLEEN, *supra* note 4, at 23; NEPSTAD, *supra* note 5, at 13.

²⁹ Al Zachary Lazarus, Comment, *A War Worth Fighting: The Ongoing Battle to Save the Brazilian Amazon*, 9 LAW & BUS. REV. AM. 399, 402 (2003).

³⁰ *Id.*

³¹ VOLPI, *supra* note 2, at 10.

³² NEPSTAD, *supra* note 5, at 13.

will dominate the biofuel market in the future because it produces eight times more oil than soy (soy happens to be an additional and cheaper alternative to sugar cane).³³ One possibility is that the biofuel crops will be increasingly delegated to land that is less arable (i.e. the Amazon rainforest) as arable lands are used for increased food production demands.³⁴ In other words, biofuel crop demands will trigger further encroachment onto Amazonian lands as the Amazonian nations continue to experience population increases.

The oilseed industry has particularly expanded in the last decade and the demand for soybeans in particular has exploded.³⁵ Soybeans are often detrimental to the Amazon rainforest when lands are directly cleared for their production; additionally, many ranchers or other types of farmers are pushed deeper and deeper into the rainforest as soybean growers take over already cleared rainforest lands.³⁶ Furthermore, soybean production within the Amazonian states has expanded 16.8% annually since 2000.³⁷ In Brazil, the development of Amazonian varieties of soybean, “improvements in transport and storage infrastructure, devaluation of the Brazilian Real, and growth in the international demand for soybeans, particularly from Europe and China” are the specific driving forces.³⁸

Additionally, energy concerns have also led to increased hydrocarbon exploration and production. For example, the central Andes are rich in natural gas and the alluvial plan between the Uruçu concession and the Andes Mountains has the most hydrocarbon

³³ KILLEEN, *supra* note 4, at 38.

³⁴ *Id.* at 39.

³⁵ *Id.*

³⁶ *Soybeans May Worsen Drought in the Amazon Rainforest*, MONGABAY.COM, Apr. 18, 2007, <http://news.mongabay.com/2007/0418-amazon.html>

³⁷ *Id.*

³⁸ VOLPI, *supra* note 2, at 14.

potential.³⁹ The Amazon also has huge bauxite reserves in addition to reserves of iron ore, manganese, zinc, etc.⁴⁰ According to Imazon (Amazon Institute of People and the Environment), mining in the Amazon generates “less than 2% of all formal jobs in the region” but accounted for 40% of the value exported from the Amazon in 2007.⁴¹ However, the major problem is the power sources created to operate the mines (often hydroelectric). Hydroelectric facilities require the damming of various waterways; oftentimes, fish populations are completely isolated and reservoirs are subject to an explosion of aquatic plants leading to increased mosquito populations and emissions of methane and carbon dioxide.⁴²

III. Looking to the Future: Three Potential Scenarios for the Amazon Basin

The first scenario is a utilitarian scenario, with the Amazon being used as a breadbasket. According to Killeen, climate changes will cause the Amazon to become drier and warmer and the subsequent collapse of the forest ecosystem, when combined with increasing deforestation, will cause an increased agriculture expansion in the region.⁴³ Increased technologies already allow the infertile soil of the Amazon to become increasingly fertile with charcoal or increased organic matter infusions.⁴⁴ Irrigation systems will take advantage of the Amazon basin’s aquifer (the largest underground one in the world) when precipitation decreases.⁴⁵ Unfortunately, there will also be numerous

³⁹ KILLEEN, *supra* note 4, at 28-30.

⁴⁰ *Id.* at 33-34.

⁴¹ DANIELLE CELENTANO AND ALDABERTO VERISSIMO, THE STATE OF THE AMAZON INDICATORS: THE AMAZON FRONTIER ADVANCE; FROM BOOM TO BUST 22 (Imazon 2007), available at <http://www.imazon.org.br/novo2008/arquivosdb/AmazonBoomBust.pdf>

⁴² KILLEEN, *supra* note 4, at 36.

⁴³ *Id.* at 15.

⁴⁴ *Id.* at 16.

⁴⁵ *Id.*

negative effects on the region in a breadbasket scenario: carbon emitted from the Amazon from the collapse of the forest ecosystem will exacerbate global warming and the carbon emitted will be equivalent to “13 years of industrial emissions.”⁴⁶ Furthermore, dry seasons will be much, much longer and more severe.⁴⁷ The already established reserve system will continue to protect random “islands” of rainforest but this isolation will cause the extinctions or homogenization of many species because they cannot migrate.⁴⁸

The second scenario is the utopian scenario, where the Amazon exists as a forest wilderness.⁴⁹ This system will only come to pass with a subsidized plan where developed nations pay the Amazonian nations for services such as carbon storage.⁵⁰ The transportation system will not be one of roads, as contemplated in other development plans, but one of “people by air and cargo by water.”⁵¹ The main focus will still be in line with IIRSA by focusing on agricultural commodity exports but deforestation will be limited by only allowing 20% of total cover land to be used (similar to the current, often unenforceable law in Brazil).⁵² The governments will have to guarantee clear title and noncompliance should result in loss of any subsidized credit and reversion of land tenure.⁵³ Farms will have to be dispersed widely and will subsequently avoid creating

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ KILLEEN, *supra* note 4, at 16.

⁴⁹ *Id.* at 17.

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.*

⁵³ *Id.*

isolated islands of biodiversity.⁵⁴ Unfortunately, the aquatic systems will be damaged by a dependence on water transport and aquaculture such as fish farming.⁵⁵

The third and most frightening scenario envisions the Amazon as a degraded forest (“business as usual” scenario).⁵⁶ Without decent market mechanisms that pay for ecosystem services and with national governments’ inability to enforce developmental control regulations, people will continue to be motivated solely by short-term financial gain.⁵⁷ Cattle farming will probably dominate the basin after increased soil degradation limits the agricultural possibilities because cattle ranching is such a low-risk venture.⁵⁸ The change in climate and landscape will inhibit the ability of many species of wildlife to adapt or migrate.⁵⁹ Lastly, the various Amazonian nations will not have integrated their economies and the local producers will constantly be subject to fluctuations in the Asian-dominated commodity markets.⁶⁰

IV. International Law Overview

The current legal framework protecting the Amazon is a veritable morass of international conventions and protocols, regional trade agreements and treaties, and both national and Latin American government initiatives and laws that exceed the scope of this article. Perhaps the most obvious reason for the multiple legal layers is to strike a balance between the sovereignty of Latin American nations (as historically emphasized in international law) and the developing concept of international responsibility for the

⁵⁴ *Id.* at 18.

⁵⁵ KILLEEN, *supra* note 4, at 18.

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ *Id.* at 19.

⁶⁰ *Id.*

Amazon rainforest's resources. Many of the Brazilian initiatives are truly localized measures that focus on land use or title (e.g., the "Forest Code" of the Unified Environmental Law in Brazil requires property owners to retain a specific percentage of "native vegetation," such as 80% for forest areas⁶¹).

International law, even as it applies to the environment, is derived from customary norms, treaties and general principles of law.⁶² Generalized principles of law, as defined by Article 38(1)(c) of the International Court of Justice's defining statute, are created by the decisions of "civilized nations."⁶³ Customary norms are equally as complicated to define. There are two criteria that must be met in order for a practice to be considered a "custom": (1) there has to be a "frequent recurrence or repetition of the specific international practice among the general community of states" and; (2) the practice has to actually be recognized by states as "opinio juris."⁶⁴ The concept of "jus cogens" adds a further dimension to international customs, as these are mandatory norms of "transcending importance" for all nations.⁶⁵ Crimes against the environment have not developed in the same manner as crimes against humanity because they lack a personalized element and it is much harder to define environmental criminal culpability.

The main problem with treaty and custom-derived law in the context of environmental protection is the often extreme time delay. For instance, it can take many, many years for customary norms to change because customs are defined as state practice

⁶¹ VOLPI, *supra* note 2, at 28.

⁶² Krista Singleton-Cabbage, *International Legal Sources & Custom*, 2 ILSA J. Int'l. & Comp. L. 171, 171 (1995).

⁶³ *Id.* at 174.

⁶⁴ Opinion juris means that the practice is recognized and agreed upon by a majority of states. *Id.* at 184.

⁶⁵ *Id.* at 184.

and as such, they do not change until states themselves change. Additionally, the absence of states from certain initiatives (e.g. the U.S.'s failure to ratify the Kyoto Protocol), especially nations that greatly contribute to international pollution, indicates that certain styles of treaties have limited usefulness for actually protecting the Amazon rainforest. Leaders of states will often sign a convention in a gesture of good will, but the treaty is not binding upon the state until they ratify it.⁶⁶ Moreover, the treaty or convention is not binding on other signatories as a whole until a certain number of nations ratify its terms.⁶⁷ Environmental conditions are often wildly fluctuating due to climate change, market boom-and-bust cycles and political conditions within developing nations; thus, the time delay creates even more of a problem when conventions have to be constantly updated and amended and the signatories have to agree to the updates or amendments.⁶⁸

V. Brazilian Environmental Law

In 1981, Law No. 6938 created the National Environmental Policy (NEP) and the three purposes of the NEP are to “protect and enhance the existing environment,” “reclaim damaged environment” and “ensure sustainable socioeconomic development.”⁶⁹ Article 14 of Law No. 6938 established fines, loss of subsidies and credit and suspension of activities for violations of NEP.⁷⁰ Article 14 also allows Brazilian attorneys general to bring civil and criminal suits against violators.⁷¹

⁶⁶ *Id.*

⁶⁷ *Id.* at 180.

⁶⁸ *Id.* at 181.

⁶⁹ Janelle E. Kellman, *Brazilian Legal Tradition and Environmental Protection: Friend or Foe*, 25 HASTINGS INT'L & COMP. L. REV. 145, 151, 153-54 (2001-2002).

⁷⁰ *Id.*

⁷¹ *Id.* at 157-58.

Law No. 6938 also created CONAMA, a national environmental council, and a Federal Technical Register of Environmental Defense Means and Activities.⁷² CONAMA is administered by SISNAMA (Brazil's National Environmental System) and is supposed to represent a variety of interests by creating regulation and licensing standards that representatives of state government, industry and environmental groups have approved.⁷³ IBAMA was then created in 1989 to administer federal environmental requirements and to assist CONAMA when local measures are unable to perform under federal standards.⁷⁴ IBAMA can create extractive reserves and enter into contracts with private entities but it is still vastly underfunded and many reserves are on paper only.⁷⁵

In 1985, Law No. 7347 expanded Article 14 of Law No. 6938 by allowing environmental groups (instead of just Brazilian attorneys general) to bring civil suits against violators of environmental regulations for money damages or injunctive relief.⁷⁶ The main problem today with this well-intended expansion is with the judiciary and legal education in general. Judges often do not have adequate training in environmental law, there is constant pressure to support development in Brazil, and young lawyers do not have proper incentives or enough training to go into environmental practice.⁷⁷

The Brazilian constitution was rewritten in 1988 and it expressly declares the Brazilian forests to be a "national patrimony" under Article 4.⁷⁸ However, the federal government is limited to only formulating general policies that are subsequently passed

⁷² *Id.* at 154.

⁷³ *Id.*

⁷⁴ *Id.* at 151, 155.

⁷⁵ Kellman, *supra* note 69, at 158.

⁷⁶ *Id.*

⁷⁷ *Id.* at 162-63.

⁷⁸ Lazarus, *supra* note 29, at 409.

on for implementation to states and counties.⁷⁹ Essentially, this leaves the local governments somewhat broad discretionary power to implement stricter or laxer policies because the constitution gives “concurrent legislative competence” over environmental damage mitigation, management of forests and the protection of various wildlife species.⁸⁰ In 1998, the Brazilian Environmental Crimes Act was signed into existence and gave IBAMA statutory authority to enforce environmental law; unfortunately, the law only allows prosecution for individual liability and does not include corporation liability.⁸¹

VI. Brazil’s Environmental Sovereignty

One of the constant tenants of international law that Brazil has historically emphasized is their sovereignty within a North-South framework: more specifically, as the right to develop under the concept of self-determination.⁸² Even the United Nations charter recognizes the idea of sovereign equality of states and the self-determination rights of peoples in Articles 1 and 2. International environmental law, however, seeks to influence “international national decisions” as opposed to influencing a nation-state’s interactions with other nation-states.⁸³ In the words of a former Deputy Assistant Executive Director of the United Nations Environment Programme, it is “unreasonable to demand that a country of mostly poor people that is saddled with enormous foreign debt burden should not utilize the natural resources within its territory to improve its living

⁷⁹ *Id.*

⁸⁰ Kellman, *supra* note 69, at 153.

⁸¹ *Id.* at 56.

⁸² A. Dan Tarlock, *Exclusive Sovereignty Versus Sustainable Development of a Shared Resource: The Dilemma of Latin American Rainforest Management*, 32 TEX. INT’L L. J. 37, 43 (1997) [hereinafter *Exclusive Sovereignty*].

⁸³ *Id.* at 42.

standards.”⁸⁴ Furthermore, Amazonia is essentially Brazil’s last “frontier” and it characteristically symbolizes their effort to “create a non-European national identity.”⁸⁵

As Dan Tarlock further discusses, however, present international law norms are beginning to recognize limitations on a state’s use of their territory as part of a limited sovereignty framework.⁸⁶ Tarlock advocates increasing international control by changing the present norms that apply to rainforest protection by replacing a concept of exclusive sovereignty with general norms of conduct toward the environment.⁸⁷ These norms would thus apply to internal state activities.⁸⁸ Unfortunately, useful principles such as “common heritage” are not recognized in international law; one such example is the 1992 Forest Principles, stating that forests are not a common concern of mankind.⁸⁹ Tarlock’s final conclusions are that sustainable development ethics create a “stewardship” sovereignty framework in which Latin American nations have primary but nonexclusive sovereignty over their resources.⁹⁰ This stewardship framework depends on the assumption that Latin America owes a duty to the international community and to future generations to preserve the Amazon rainforest.⁹¹ Furthermore, the creation of the Amazon Fund might be a baby step towards requiring developed nations across the board to reimburse a country like Brazil for taking steps to preserve the environmental “services” that the rainforest provides.

⁸⁴ Haroldo Mattos de Lemos, *Amazonia: In Defense of Brazil’s sovereignty*, 14 FLETCHER F. WORLD AFF. 301, 311 (1990).

⁸⁵ *Exclusive Sovereignty*, *supra* note 82, at 37, 41.

⁸⁶ *Id.* at 45.

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ *Id.* at 47.

⁹⁰ *Id.* at 65.

⁹¹ *Exclusive Sovereignty*, *supra* note 82, at 65.

VII. The Amazon Fund

Brazil announced on July 31, 2008 that it was creating the Amazon Fund to support sustainable development plans and otherwise prevent deforestation of the Amazon rainforest through voluntary donations.⁹² According to the BNDES (Brazil's National Social and Economic Development Bank), donors will be issued non-tradable diplomas recognizing their contributions but will not be issued any form of equity rights or carbon credits for offsets.⁹³ The Fund will support projects with certain goals such as:

the management of public forests and protected areas; environmental control, monitoring, and supervision; sustainable forest management; economic activities developed with the sustainable use of the forest; ecologic and economic zoning, agrarian regulation and organization; conservation and sustainable use of biodiversity; and recovery of deforested areas.⁹⁴

The Fund also created a Steering Committee for approving guidelines for the application of all funds, the "internal regulations" of the Steering Committee and the annual report.⁹⁵ The Steering Committee, according to the BNDES news release, will consist of various representatives from the Brazilian federal government, Amazonia's local governments and "civil society."⁹⁶ Representatives will consist of nine federal government representatives, one representative from each Amazonia state government

⁹² *The Amazon: Paying for the Forest; Donations Welcome, Even from Foreigners*, [economist.com](http://www.economist.com), Aug. 7, 2008, http://www.economist.com/displaystory.cfm?story_id=11885784 [hereinafter *Paying for the Forest*].

⁹³ *President Lula signs decree to create Amazon Fund in BNDES*, BNDES NEWS, July 31, 2008, http://www.bndes.gov.br/english/news/not119_08.asp.

⁹⁴ *Id.*

⁹⁵ *Paying for the Forest*, *supra* note 92.

⁹⁶ *Id.*

and six civil society representatives; furthermore, all resolutions have to be approved by consensus.⁹⁷ The Fund hopes to obtain approximately \$1 billion in its first year and \$21 billion by 2021.⁹⁸ Interestingly enough, “up to 20%” of the funds can be used for deforestation plans outside of the Amazon rainforest (but within Brazil) or towards systems in other Latin American tropical countries.⁹⁹ The first donor and only donor so far is Norway and they have pledged \$1 billion over the next seven years and their pledge is contingent upon Brazil’s demonstrated reduction in deforestation rates.¹⁰⁰

The Amazon Fund is consistent with the theory of international responsibility for the protection of the rainforest by requesting that developed (i.e. wealthier) nations essentially “put their money where their mouth is.” However, the Fund does not offer any mechanisms for a donator to delegate where their donations should be used. The Brazilian government has been rather quick to disclaim any possibility that donors would have any influence on fund allocations and the pure voluntary nature of the Fund eliminates the possibility of analyzing the Amazon Fund within a class of protectionary market-mechanisms. However, a voluntary fund such as the Amazon Fund will be subject to the negative impact of market pressures regardless because it is extremely likely that a sliding international economy could adversely affect the size and manner of possible donations. The next section discusses a market mechanism that was popular in the 1980s, which allowed the purchasing of a nation’s debt for the right to positively and tangibly shape the environmental protections over a designated zone in that nation. The

⁹⁷ *Amazon Steering Committee is Installed at BNDES Headquarters*, BNDES NEWS, Oct. 24, 2008, http://www.bndes.gov.br/english/news/not191_08.asp.

⁹⁸ *Paying for the Forest*, *supra* note 92.

⁹⁹ *Id.*

¹⁰⁰ *Norway Joins Fight to Save Amazon*, BBC NEWS, Dec. 17, 2008, <http://news.bbc.co.uk/2/hi/americas/7621179.stm>.

purpose of this discussion is to illustrate the benefits of positively linking markets to protecting the Amazon, rather than allowing a boom-and-bust cycle to dictate commodity development.

VIII. Debt-for-Nature Swaps

First of all, the Amazon Fund does not address Brazil's foreign debt in the way debt-for-nature swaps can. These types of transactions were deemed to have great potential in the late 1980s and 1990s because they provide for the purchase of a country's commercial bank debt by a foreign non-profit group or a private conservation organization acting with a foreign government agency.¹⁰¹ Generally, a non-governmental organization (NGO) will purchase a debt instrument with hard currency, the instrument will be converted into local currency of the debtor country and the debt "service" is applied to either fund a conservation program or purchase land threatened by development.¹⁰²

Indebtedness often impedes a developing country from "devoting resources to environmental protection" and the constant short-term exploitation of their natural resources in order to stem foreign debt fuels a vicious cycle.¹⁰³ The failed debt-for-nature swap in 1987 between Conservation International and the government of Bolivia for the canceling of debt in exchange for Bolivia's commitment to protection 3.7 million acres of tropical forest demonstrated the need for greater oversight and enforcement mechanisms

¹⁰¹ David Allen Reisman, Comment, *Debt-for Nature Swaps in Brazil: Response to World Pressure to Protect the Amazon*, 8 J. NAT. RESOURCES & ENVTL. L. 397, 405 (1992-1993).

¹⁰² Dan A. Tarlock, *The Role of Non-Governmental Organizations in the Development of International Environmental Law*, 68 CHI.-KENT L. REV. 61, 74 (1992-1993) [hereinafter *The Role of Non-Governmental Organizations*].

¹⁰³ Michael S. Sher, *Can Lawyers Save the Rainforest? Enforcing the Second Generation of Debt-for-Nature Swaps*, 1 HARV. ENVTL. L. REV. 151, 157 (1993)

within the terms of the agreement.¹⁰⁴ A later debt-for-nature swap between Ecuador and the WWF involved the assignation of the debt to a local NGO; consequently, Ecuador was only required to pay interest payments to this NGO so that the NGO could finance the protection of nature reserves.¹⁰⁵

The United States' 1990 Enterprise for the Americas Initiative (EAI) included a program for public debt-for-nature transactions under the Food, Agriculture, Conservation and Trade Act by allowing the forgiveness of U.S. "Food for Peace" loans.¹⁰⁶ The EAI, according to USAID's website, is now inactive and its last transaction was in 1997 with Peru.¹⁰⁷ In 1998, the Tropical Forest Conservation Act (TFCA) was passed and it broadly applies to countries outside of Latin America. The TFCA offers three debt treatments: "debt reduction/loan restructuring," "subsidized debt-for-nature swap" and "debt buy-back."¹⁰⁸ There are also three main agreements created under a TFCA debt-for-nature swap:

a debt reduction agreement between the USG and host country, a swap fee agreement between the USG and donor NGOs transferring the private funds to the USG, and a forest conservation agreement between the host country and donor

¹⁰⁴ *Id.* at 159.

¹⁰⁵ *Id.* at 160.

¹⁰⁶ Sher, *supra* note 103, at 176.

¹⁰⁷ *Innovative Financing for Forest Conservation and the Environment; Tropical Forest Conservation Act (TFCA) Enterprise for the Americas Initiative (EAI)*, USAID ENVIRONMENT, http://www.usaid.gov/our_work/environment/forestry/tfca.html (last visited Jan. 15, 2009).

¹⁰⁸ *Tropical Forest Conservation Act (TFCA) Debt Treatment Options*, USAID ENVIRONMENT, http://www.usaid.gov/our_work/environment/forestry/debt_mechs.html (last visited Jan. 15, 2009).

NGOs outlining how the funds will be used and establishing the oversight committee and its operating modalities.¹⁰⁹

The TFCA, similar to the EAI, has several political requirements for a debtor country to fulfill: they must have a democratically elected government, they have to cooperate with the U.S. on drug control, they cannot support terrorism and they must have a good human rights record based on internationally recognized human rights.¹¹⁰ The only problem with these political requirements acting as a form of oversight is that they can easily be abused and discriminatorily expanded. Furthermore, the necessary balancing between sovereignty and protection of the Amazon rainforest could fall to the wayside with a nation such as Brazil because they are more of an economic force than some of the smaller Latin American nations. For example, the TFCA has never done a debt-for-nature swap with Brazil.

As mentioned earlier, Brazil has certainly been the forerunner of voicing concerns over these transactions as constituting inroads on their national sovereignty. Brazil's former President, Jose Sarney, even declared in the 1990s that debt-for-nature swaps were a form of colonialism.¹¹¹ Michael Sher explains in his article, however, that the majority of debt-for-nature swaps actually limit inroads into a nation's sovereignty when they involve a local NGO because there are no pressures to enact certain forms of legislation.¹¹² Brazil's external debt, however, has actually been decreasing (it was at

¹⁰⁹ *Id.*

¹¹⁰ *Tropical Forest Conservation Act (TFCA) Eligibility Requirements*, USAID ENVIRONMENT, http://www.usaid.gov/our_work/environment/forestry/tfca_requirements.html (last visited Jan. 15, 2009).

¹¹¹ *Id.* at 164.

¹¹² *Id.* at 165.

\$229.4 billion in 2007).¹¹³ According to the Export Development Canada (EDC), Brazil's external debt, as a percentage of GDP, has decreased from 32.1% in 2002-2006 to 14.4% in 2008.¹¹⁴ The lessening of a debt crisis in Brazil does not eliminate the important corollary lesson from debt-for-nature swap involvement: NGO involvement seems to be key to preserving one's sovereignty and will simultaneously monitor, fund and otherwise assist a broad-based Amazon protection scheme.

IX. The NGO Role

Tarlock, in his 1993 article about the roles of NGOs in creating international environmental law, attributes increasing NGO influence to an expanding dependence on science to define environmental problems.¹¹⁵ There are actually several reasons for the emergence of this niche: NGOs do not need to trade off environmental objectives for other motivating reasons, they can work in local environments with more ease than a national government, there is no reason for them to gloss over certain scientific conclusions, etc.¹¹⁶ As mentioned before, Brazilian laws have a citizen standing provision for enforcement of environmental regulations and NGOs are often in a better financial and political position to bring this suit than a single person.¹¹⁷ NGOs are less constrained by individual nations' exclusive sovereignty ideologies because state interests are not always put in front of international negotiations.¹¹⁸ NGOs have also expanded their participation in the enforcement of international environmental standards

¹¹³ BRAZIL, EXPORT DEVELOPMENT CANADA, http://www.edc.ca/english/docs/gbrazil_e.pdf (last visited Jan. 15, 2009).

¹¹⁴ *Id.*

¹¹⁵ *The Role of Non-Governmental Organizations*, *supra* note 102, at 63.

¹¹⁶ *Id.* at 65-66.

¹¹⁷ *Id.* at 70.

¹¹⁸ *Id.* at 72.

(which is often statutorily allowed), but NGOs do not definitively “exist” in the international system of norms yet.¹¹⁹

NGOs can play a valuable role in a debt-for-nature swap, as discussed previously, because they are allowed more leeway to apply their specialized knowledge and experience. Conversely, their role in the participation of the Amazon Fund appears more limited. Other than donating a sum of money, the localized expertise, intellectual capital or other services that NGOs can offer might go to waste if they have no input on where their contributions are directed. The manner in which the Fund was set up also seems to solicit donations from developed nations and big corporations who may not have a specific interest in narrowly dictating Brazilian environmental policy, such as an NGO would probably have.

X. Carbon Credits as an Amazon Fund Incentive

Carbon markets are a place where parties can trade the right to emit greenhouse gases (GHGs) and there are currently several existing markets, such as the European Union’s Emissions Trading System, New Zealand’s Emissions Trading System, etc.¹²⁰ Generally, a carbon unit of trade equals one ton of CO₂.¹²¹ Button’s article discusses some interesting arguments about whether the world should treat carbon units as commodities or as currency. Carbon emission units are similar to commodities because they can be traded like generic goods when within a “homogenous market,” they are

¹¹⁹ *Id.* at 73

¹²⁰ Jillian Button, *Carbon: Commodity or Currency? The Case for an International Carbon Market Based on the Currency Model*, 32 HARV. ENVTL. REV. 571, 571 (2008).

¹²¹ *Id.* at 573

made in large volumes, they can be sold through futures contracts, etc.¹²² Emissions units are also similar to currency, on the other hand, because a government has to recognize their worth and one can “bank and borrow” the units.¹²³ Button also explains that carbon markets are usually created through a “top-down mechanism, starting at the top with an international treaty and working its way down through national legislation binding on private firms.”¹²⁴ More importantly, an entirely market-driven framework for carbon trading will be hard to regulate by state governments that might be more in favor of conservation.¹²⁵

The reason these ambiguities are important in the context of the Amazon Fund is that a donator would most likely prefer their “incentive” to be something concrete and useable in a variety of markets, especially as the Amazon Fund plans to target parties with deep pockets. Otherwise, it would be pointless to even include carbon credits as a nation’s reward for contributing to the Amazon Fund. Not to mention, determining the status of a state’s carbon credits in the context of a carbon market based on private business create even more legal nuances. Furthermore, a major issue with the marketization of GHG emissions is that “less environmentally or financially additional units will enter the market, driving down the price of units” over the entire market. Carbon credits given to a donating nation through the Amazon Fund could potentially be worth less in the market if it turns out that Brazil used the donations for programs that did not positively affect deforestation rates and subsequent emission rates.¹²⁶ Additionally,

¹²² *Id.* at 576.

¹²³ *Id.* at 577-78.

¹²⁴ *Id.* at 581.

¹²⁵ *Id.* at 582.

¹²⁶ *See* Button, *supra* note 120, at 584.

carbon credits for “avoided deforestation” are not yet recognized as equivalent emissions units in the markets.¹²⁷

As previously discussed, carbon markets continue to create fascinating questions of international law and financial policy. Since the Amazon Fund specifically precludes giving donors carbon offsets, the discussion is purely hypothetical. More than likely, an extremely lengthy international convention negotiation can resolve some of these uncertainties in the future; however, carbon credits do not seem to be the best option for a donor incentive under the Amazon Fund.

XI. Conclusion

According to Brazil, the most obvious way developed nations can help save the Amazon rainforest is to contribute to the Amazon Fund and essentially trust that Brazil can adequately manage the funds. The complete lack of any oversight or market mechanism, when combined with a precarious voluntary nature, also makes the potential American role limited if it solely donates to the Amazon Fund. The Amazon Fund seems to be a better avenue for contributions from international companies that would gain more from an improved environmental reputation as opposed to nations donating what is essentially the money of their citizens without a reciprocal return. Arguably, the “return” from saving the Amazon rainforest is intangible at the moment and especially impossible to measure in terms of economic gain. As such, debt-for-nature swaps are a worthy comparison because they are the best of both worlds: they balance Brazil’s sovereignty with increased international input, they reduce a developing nation’s debt, they involve

¹²⁷ *Id.* at 585.

NGOs on a more integral level, etc. Lastly, carbon credits could be a viable method of compensating a donating party, but the inherent uncertainties in the carbon market probably preclude this as the best option for Brazil's Amazon Fund. The Amazon Fund mostly symbolizes what could be deemed a Brazilian compromise between a theory of stewardship and rainforest "services" and territorial sovereignty under international law.¹²⁸

¹²⁸ Alisa P. "Paige" Mason, University of Miami School of Law, class of 2010.