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# Brazilian Environmental Law: 'Green' Development?

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## A Brief Background to Brazil

Brazil is a federal republic formed by 26 states divided into 5,565 municipalities and a federal district. The country covers an area of 8514876 km² and has a 8,500 km shoreline. In 2009, the size of the Brazilian population was 191.5 million. In 2005, the urban population reached 84.2 per cent.

Brazil comprises of six terrestrial biomes: Amazon; Cerrado; Pantanal; Caatinga; Atlantic Forest; and Pampas. The Amazon and Atlantic Forest biomes, which cover 49.3 per cent and 13.4 per cent of the country respectively, largely comprise of tropical rainforests. The Amazon is responsible for producing around 20 per cent of the world's oxygen and holds nearly 15 per cent of all freshwater available on Earth. The Cerrado and the Pampas, which cover 23.9 per cent and 2.1 per cent of the country respectively, are kinds of savannas. The Caatinga biome, which covers 9.9 per cent of the territory, is also a kind of savanna, but much drier compared to Cerrado and the Pampas biomes. The Pantanal biome, which covers 1.76 per cent of the country, is a steppe-like savanna that is underwater for most of the year. It is

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considered the world's largest wetland area. Brazil is one of the most biological diverse countries in the world, arguably the most.

**Environmental Issues in Brazil**

The main industries responsible for the destruction Brazil's rich biodiversity and the emission of the greenhouse gases (GHG), are agricultural and animal husbandry activities undertaken in forests and protected areas.[1] Deforestation associated with the conversion of forests into agricultural areas is responsible for 74 per cent of the country's carbon dioxide emissions.[2] To date, 17 per cent of the Amazon, 93 per cent of Atlantic Forest, 17 per cent of Pantanal, 46.4 per cent of Cerrado, 59 per cent of Caatinga and 54 per cent of the Pampas biomes have been destroyed mainly by agriculture and urbanization.

In relation to Amazon, one of the most critical issues faced by this biome is the construction of giant hydroelectric power plants, especially Belo Monte, located in Xingu River drainage basin. The reservoir for this plant will cover a 440 km² area. It will be complemented by the Babaquara dam, covering an area of 6,140 km², which will be constructed to control the flow of the Xingu River in order to increase the energy production of Belo Monte plant.[3] Beside the environmental impacts associated with the construction of the plant and its dams, it will also have social impacts as the development will necessitate the relocation of several indigenous and traditional communities. In addition, the construction of Belo Monte plant and Babaquara dam will produce (on average) 11.2 million mg of carbon dioxide equivalent (CDE) per year for the first ten years, dropping to 6.1 million mg per year for the following 20 years, and 1.4 million mg per year for the next 50 years.[4]

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[1] See further: V. Magalhães, *A Reserva Legal e a Propriedade Rural.* Dissertação (2001) Mestrado em Direito, Faculdade de Direito, Universidade de São Paulo, São Paulo.
[2] Ministry of Science and Technology, *Brazil's Initial National Communication to the United Nations Framework Convention on Climate Change* (2004), available at http://www.mct.gov.br/index.php/ content/view/311359.html, at 88.
[3] P. Fearnside, 'As Hidrelétricas de Belo Monte e Altamira (Babaquara) como Fontes de Gases de Efeito Estufa' (2009) 12(2) *Novos cardernos NAEA*, *5-56,* at 5 (available at http://www.xinguvivo. org.br/wp-content/uploads/2010/10/As-hidroelétricas-de-Belo-Monte-e-Altamira-Babaquara-como-fontes-de-gases-de-efeito-estufa.pdf).
[4] Ibid, at 33.

## Main Environmental Laws

*Federal Constitution (1988)*

The *Federal Constitution* enables the Federal District, the states and municipalities to create environmental laws (articles 24 and 30) and to take steps to preserve the environment (article 23). Environmental protection is also one of the economic order principles enshrined in the *Constitution* (article 170). The *Constitution* also provides that rural property owners may sustainably use natural resources but must preserve the environment to ensure that it can fulfill its social function (article 186). Lastly, the *Constitution* provides that an ecologically balanced environment is a right of all people and the government and the people must defend it and preserve it for future generations (article 225).

*Framework Environmental Legislation*

The *National Environmental Policy* (*NEP*), *National Environmental System* (*NES*) and the National Environmental Council (NEC) have been established under the *National Environmental Policy Act*.[5] The *NEP* aims to protect and restore the environment, and promote sustainable development in Brazil. Its main tool is environmental licenses required for the construction, implementation, expansion and performance of current or potentially polluting activities. Another key tool is provision for environmental impact studies and reports which must be prepared by the developer and submitted to the competent authority for consideration prior to granting or refusing any environmental license. The *NES* essentially comprises of the Ministry of the Environment and the environmental agencies of states and municipalities. The NEC is responsible for defining the technical standards and criteria for licensing; and prescribing and monitoring compliance with standards, criteria and rules regarding natural resource use.

[5] Federal Law No. 6.938/81.

*Biodiversity, Genetic Resources and Traditional Knowledge*

The *National Biodiversity Policy*[6] (*NBP*) provides for the protection and sustainable use of Brazil's biodiversity. It covers the following broad eight areas: the study and systematization of existing knowledge on Brazil's biodiversity; *in situ* conservation; *ex situ* conservation; the prevention and mitigation of impacts on biodiversity; access to genetic resources and related traditional knowledge; education; law; and institutional arrangements regulating biodiversity management.

Access to genetic resources and related traditional knowledge is further regulated under *Provisional Measure* (No. 2.186/01). It created the Genetic Resources Management Council, which is responsible for assessing requests for accessing and using genetic resources and related traditional knowledge, and granting authorisations to do so.

*Forestry and Indigenous Vegetation*

The *Forest Code* (1965) aims to protect forests and other indigenous vegetation situated in rural areas and some kinds of urban areas. It is the key legal instrument for preventing biodiversity loss and global warming associated with the destruction of forests and other vegetation. The main tools for doing so are the declaration of permanent preservation areas[7] and legal reserves[8]

*Water Resources*

Brazil has approximately 15 per cent of all the fresh water resources available on Earth with most of these resources being situated in the Amazon and Pantanal

[6] Decree No. 4.339/02,
[7] These are defined as urban and rural areas 'covered or not by native vegetation, where the water resources, landscape and geological stability, biodiversity, fauna and flora gene flow shall be protected, as well as the soil; assuring the well-being of the human population' (Articles 2-4).
[8] These are rural areas that cannot be deforested or used for agricultural and animal husbandry activities by landowners (Articles 16,17 and 44).

biomes.[9] The Brazilian southeast region has the highest water demand of the country, as it has the country's highest demographic density. To deal with this situation, the country is divided into 13 hydrographic regions formed by the main drainage basins that have environmental, social, economic and cultural similarities. The use of these water resources is guided by the *National Policy on Water Resources* and the *National Water Resources Management System,* enacted under *Federal Law* (No. 9.433/1997).[10]

*Coastal Management*

Nearly 20 per cent of the Brazilian population resides on the coast which is similarly home to 2.5 million hectares of mangroves. These mangroves are a very important ecosystem for Brazil in that they prevent coast erosion along river mouths. The *National Coastline Management Program* (1988),[11] which is a part of the *National Policy on Water Resources and Environment*, governs the management of the coastal zone. It regulates the use of natural resources, occupation of and activities undertaken in the coastal zone.

## Recent Developments in Policy and Legislation

*Climate Change*

In 2009, the Federal Government published the *National Policy on Climate Change* (*NPCC*).[12] The *NPCC* is an umbrella policy that focuses on reducing climate risk. It governs activities undertaken by both the government and private citizens. The *NPCC* prescribes that measures must be implemented to reduce anthropocentric GHG emissions from several sources (article 4). It sets a national commitment of reducing the country's current carbon emissions by 38.9 per cent compared to those levels estimated for 2020. The *NPCC* also aims to ensure that: economic and social development is compatible with the preservation of the climate system; necessary adaptation measures are implemented; the environment and its biomes are

[9] Empresa Brasileira de Pesquisa Agropecuária, *Atlas do meio ambiente do Brasil* (1994) Brasília: EMBRAPA-SPI e Ed.Terra Viva, Brazilia, at 12.
[10] Article 21 provides that the government is responsible for providing national management system for water resources and defining criteria for their exploitation.
[11] Federal Law No. 7.661/88.
[12] Federal Law No. 12.187/2009.

preserves and rehabilitated where necessary; protected areas are consolidated and expanded; and that the reforestation and recovery of affected areas is supported (Article 4).

While the introduction of the *NPCC* is to be welcomed, its content is not well articulated and several factors may undermine its utility. The *NPCC* leaves the nature of GHG emission reductions to be defined by another legal directive. Furthermore, the *NPCC* does not prescribe the institutional arrangements responsible for its implementation and to monitor GHG emissions. In addition, the provisions of the *NPCC* are unfortunately not integrated within or coordinated with other relevant federal environmental policies that are extremely important for achieving its objectives. These policies include the *National Plan for Agriculture*[13], the *Forest Code*, the *National Energy Policy*[14], the *National Policy on Biodiversity* and the *National Policy on Solid Waste*.

In October 2010, the Federal Government also published the *2nd National Communication* and the *2nd Inventory* (base year 2000). In 2000, Brazil's highest carbon dioxide emitters per sector were: land use change and forestry (78 per cent); and the energy sector (18 per cent). In the same year, Brazil's highest $CH_4$ emitters per sector were: agriculture (68 per cent); land use change (19 per cent); and the waste sector (18 per cent). As for $N_2O$ emissions, the agricultural sector contributed 86 per cent.

*Solid Waste*

Brazil produces a considerable amount of solid waste and it is on the increase.[15] This was no doubt partly due to the absence of a suitable legal framework to regulate solid waste. In August 2010, the Federal Government enacted the *National Policy on Solid Waste*[16] (*NPSW*), the objectives of which are: the non-generation, reduction,

[13] Ministry of Agriculture, Livestock and Supply. *Plano Nacional de Agroenergia 2006-2011*. Brasília: EMBRAPA Informação Tecnológica, 2005.
[14] Ministry of Agriculture, Livestock and Supply. *Plano Agrícola e Pecuário 2010-2011*. Brasília: Secretaria de Política Agrícola, 2010.
[15] In 2009, Brazil generated 57 million tons of municipal solid waste. This constituted an increase of 7 per cent when compared to 2008. Only 50 million tons of waste was collected in 2009, which means that 7 million tons were certainly improperly disposed of. See further: Brazilian Association of Public Cleansing and Special Waste, *Panorama of Solid Waste in Brazil* (2009), available at http://www.abrelpe.org.br/panorama_2009.php, at 177.
[16] Law No. 12.305/2010.

reuse, recycling, treatment and environmentally-friendly disposal of solid waste; reducing the volume and hazardous nature of waste; supporting the recycling industry; and the integrated management of solid waste by the government and private companies (article 7). To achieve these objectives, the *NPSW* prescribes the following main measures: shared responsibility for the products' lifespan (article 3); tax, financial and credit incentives for the participation of cooperatives and associations formed by low-income individuals to collect, reuse and recycle solid waste (article 17, article 42 and article 44); prohibitions on the importation of hazardous solid waste (article 49); and the creation of the National Plan by the Ministry of the Environment, with the participation of the society (article 15).

The objectives of the NPSW appear to be clearly defined. In addition, its promotion of incentives and voluntary compliance measures in the context of solid waste management is essential given the current limited resources and infrastructure of the government. The Brazilian Government cannot even treat the solid waste produced by such companies.

*Forestry*

The main environmental legal reform currently being debated by the Federal Government is the amendment of the *Forest Code* (1965), specifically its provisions relating to the declaration and protection of permanent preservation areas and local reserves. The amendments are apparently being driven by agribusiness in an effort to decrease the size of these areas and lessen the strict regulation that applies to activities undertaken within them.[17] According to the former Minister of Environment, Mr. Carlos Minc, the amendments will lead to the destruction of approximately 80 million hectares of forest and indigenous vegetation in Brazil. Of further concern is that the amendments grant amnesty and suspend fines issued to rural landowners for offences committed under the *Forest Code* prior to July 2008. According to the current Minister of the Environment, Mrs. Izabella Teixeira, the anticipated loss associated with such amnesty and suspension for just the federal inspecting authority is in the region of R$ 10 billion (US$ 5.8 billion).

[17] On 29 September 2009, a Special Committee was created to analyze several legislative bills to change the *Forest Code*. Deputy Aldo Rebelo was appointed as the reporter for the Special Committee. On 26 July 2010, his report, which contains the proposed amendments in the form of an Amendments Bill to the *Forest Code*, was submitted for debate.

The proposed amendments to the *Forest Code* must be voted on by the end of 2010 or the beginning of 2011. If they are approved in their current form, it will lead to an exponential increase in the destruction of Brazil's biodiversity. It will further increase Brazil's GHG emissions which may in turn result in floods and landslides in rural and urban areas with a material risk for soaring death tolls and severe economical damage, especially in those areas inhabited by poor communities. It appears likely that the amendments will be approved given the key role agribusiness plays in sustaining the Brazilian economy. Coupled with the approval of massive hydro-electric schemes in the Amazon biome, such as the Belo Monte hydroelectric power plant and associated Babaquara dam, it would appear unlikely that the Federal Government will attain the objectives and commitments set out in the *National Environmental Policy*, *National Biodiversity Policy*, *National Policy on Climate Change*, *Convention on Biological Diversity* and *UN Framework Convention on Climate Change*.