

Annex III: Country Studies

Case Study: Brazil

Émilie Champagne* and Josh Roberts**

1. Origin and background of REDD in Brazil

On the international stage, Brazil has taken an active approach in contributing towards the development of REDD. At the domestic level, it has been actively developing practical experience with REDD, and is currently developing a legal framework for REDD's inclusion in a Post-Kyoto Framework.

Brazil currently has six REDD projects ongoing. One of the most visible projects is the “Juma Sustainable Development Reserve Project”, which was created in 2006. The project is located in the State of Amazonas, which is suffering from heavy deforestation due to increasing rates of agriculture and cattle ranching. The area has been established as a Protected Area (PA) for Sustainable Use (*Unidade de Conservação de Uso Sustentável*), and was created as a financial mechanism for compensating REDD activities. The resources raised from the sale of carbon credits will permit the Amazonas Government to implement measures necessary to monitor the forest within the project site, combat illegal logging, and improve the welfare of local communities.

The Juma Project is being implemented by the State Secretariat for the Environment and Sustainable Development of the Amazonas (*Secretaria do Meio Ambiente e Desenvolvimento Sustentável do Amazonas*, hereafter, “SDS”) and the Amazonas Sustainable Foundation (*Fundação Amazonas Sustentável*, hereafter, “FAS”).¹ Technical assistance is provided by the Institute for Conservation and Sustainable Development of the Amazonas (IDESAM),² a not-for-profit NGO. Marriot International is also supporting the project by providing annual investments of US\$500,000 per year, for four years, combined with revenues from hotel guests to offset their carbon emissions (US\$1/room/day).

There are several issues that will need to be considered when developing REDD legislation in Brazil. First, Brazil, a federation, will need to navigate between national and sub-national carbon initiatives. Moreover, complex layers of regulation and uncertainty over land ownership in the Amazon pose great challenges for the implementation of future REDD projects in Brazil. Furthermore, while Brazil has laws to combat illegal logging, it has a fairly poor track record on enforcement. In order to

* Intern, IUCN Environmental Law Centre, Bonn, Germany.

** J.D. Candidate 2009, University of the Pacific McGeorge School of Law, California, USA. With background research from: Paulo de Tarso de Lara Pires (Professor, Federal University of Paraná, Brazil); Fernando Campos (Researcher, Center of Studies and Environmental Conflicts Mediation, Federal University of Paraná); Gabriel Ribenboim (Juma Project Manager and Special Project Manager, Fundação Amazonas Sustentável).

1 *Fundação Amazonas Sustentável*. The FAS is a private, independent and not-for-profit institution of public interest and without party political connections.

2 *Instituto de Conservação e Desenvolvimento Sustentável do Amazonas*.

have a successful REDD programme in Brazil, these issues will need to be addressed in subsequent legislation.

2. Existing legal and policy framework

In Brazil, there is currently no national federal climate change law or legal framework for REDD. The REDD process is instead governed by various federal and state policies, regulations, and laws (as well as a number of state carbon laws), which lay the legal foundation for initiating REDD projects in Brazil.

2.1 Policy framework

Initiatives to combat climate change and deforestation in Brazil are guided by two overarching policies: the *National Plan to Combat Deforestation and Plan to Combat Deforestation at State Level for the Period 2008–2011* (“Deforestation Plan”),³ and the *National Plan on Climate Change* (“National Plan”).⁴

Launched in 2008, the National Plan reveals Brazil’s climate change strategy, which includes deforestation targets and cites REDD as a way to create an economic dynamic favourable to forests. It sets Brazil’s first ever deforestation reduction target by aiming to slash deforestation by 70 percent by 2018. Following Brazil’s direct funding approach, the National Plan does not create any rights to carbon emissions, and does not allow for offsets or the possibility of trading the carbon stored in its forests. The National Plan is based on a very participatory process by seeking to attain its reduction objectives via the support of both national and international financial resources. Furthermore, the National Plan calls for the implementation of the National Public Forests Register, which identifies public forests to be protected, preserved, and managed, and implementation of a satellite deforestation monitoring programme.

The Deforestation Plan provides for various measures for the valuation of forests to conserve biodiversity; improved forest management; the creation of 20 million hectares of conservation units; incentives for sustainable recovery of deforested areas; decentralized management and partnerships between federal, state and local governments; and the establishment of a legal framework for public forest management.⁵

2.2 The Federal Constitution of Brazil

The Brazilian Federal Constitution explicitly states that everyone has a right to an ecologically balanced environment. It imposes a duty on both the government and the community to defend

3 Plan drafted by the Permanent Interministerial Working Group to Reduce Deforestation in the Legal Amazon. This is a Federal Government Plan coordinated by the Office of the Chief of Staff.

4 On 11 December 2008, the Brazilian government organized a side event in Poznan to explain the National Plan on Climate Change and to present the Amazon Fund. On 1 December 2008, President Luiz Inácio Lula da Silva initiated the National Plan on Climate Change, which includes a deforestation provision but excludes the possibility of trading forest carbon.

5 Baker & McKenzie. (2009). “Background Analysis of REDD: Regulatory Frameworks”, p. 51. *Report prepared for the Terrestrial Carbon Group and UN-REDD Programme. Sydney, Australia: Baker & McKenzie.*

and preserve the environment for present and future generations.⁶ Forests are considered to be national wealth and a common asset for all inhabitants.⁷ This includes the Amazon Forest, among other biomes, which is declared part of the national heritage. Furthermore, it states that unoccupied lands or lands seized by the states through discriminatory actions which are necessary to protect the natural ecosystems are inalienable.⁸

The shared responsibility of all levels of government regarding environmental protection is explicitly stated under the common powers provision of Article 23, which articulates that it is commonly incumbent upon the Union, the states, the Federal District and the municipalities to protect the environment and fight pollution in any of its forms, and to preserve the forests, fauna and flora.

With respect to indigenous peoples, Article 231 recognizes the Indians' right to land that they traditionally occupy, that these lands are intended for their permanent possession, and that they have exclusive rights over the "riches of the soil, the rivers and the lakes existing therein". It adds that these lands are inalienable and indisposable, and that the removal of indigenous groups from their lands is forbidden, with certain exceptions.⁹

2.3 Land tenure and forestry law

There is extensive legislation regulating forests and land tenure in Brazil. Private land ownership is permitted by the Constitution guaranteeing the right to property.¹⁰ The existing legal framework in Brazil enables land users to obtain legal title (*usucapião*) over land that they have developed through their own work, and have made productive for five uninterrupted years.¹¹ Brazil lacks a central land register, and it is believed that only four percent of private land in Amazonia is covered by secure title deeds; much of the rest is being grabbed in the hope of eventually establishing *de facto* ownership.¹² Furthermore, the occupancy of public lands in the Amazon has also been marked with widespread irregularity.

The Brazilian *Forestry Code*¹³ echoes the Constitution declaration that forests on national territory are goods of common interest to all inhabitants of the country.¹⁴ The Code governs forest management and outlines the procedures for forest conservation as well as the conservation of natural resources in national forested areas, including both private and public lands.

6 Federal Constitution of Brazil of 2006, Article 225.

7 *Ibid.*

8 *Ibid.*, Article 225, para. 5.

9 *Ibid.*, Article 231.

10 *Ibid.*, Articles 5 and 170.

11 "The person not being the landowner of rural or urban property, having possessed it as his for five uninterrupted years, without opposition (if rural property with an area less than 50 hectares), making it productive through his own or his family's work, having it as his home, will acquire its formal ownership". Translation of Art. 1239 of the Law n 10406/2002: from Ogonowski, M. *et al.* (2009). "Utilizing Payments for Environmental Services for Reducing Emissions from Deforestation and Forest Degradation (REDD) in Developing Countries: Challenges and Policy Options". Washington DC, USA: Center for Clean Air Policy.

12 The Economist. (2009a). "The Brazilian Amazon: Preventing Pillage in the Rainforest". (26 February 2009).

13 Lei n. 4.771, de 15/09/1965. *Novo Código Florestal*.

14 *Ibid.*, Article 1.

The use of natural forest resources on private land is permitted by the landowner, making him the provider of ecosystem services on the property, subject to certain limitations imposed by the Code. All rural properties are required to have two types of protected or conserved areas. First, Permanent Preservation Areas are areas within public and private properties that have important environmental functions. Secondly, landowners must keep 80 percent of their forest land as a *Reserva Legal* (legal reserve).¹⁵ This land can only be exploited with an authorized sustainable management plan (MP).

Public lands are administered by the Union, states or municipalities in the interest of the common good. On public land, concessions may be allocated under the *Law on the Management of Public Forests*.¹⁶ This law manages publicly owned forests and guarantees the allocation of areas to be managed by local communities. The law establishes a forest concession system that governs the allocation of timber concessions by conceding rights to manage public forests sustainably for the exploration of products and services which are allocated through an open bidding process.

Under the Constitution, indigenous land is the property of the federal government.¹⁷ Although the land and the natural resources deriving from these lands are the inalienable property of the Union, indigenous communities have exclusive rights to the use of the land and resources.¹⁸ The Statute also grants permanent tenure of lands traditionally occupied by Indians.

Under Federal law, if the forest people are not included in the REDD scheme they do not lose their rights to access natural resources on the land. Under the Indian Statute, indigenous communities have a right to the use of the resource without being the owner. Furthermore, the law allows indigenous communities the right to derive income from the resource without being the owner of the land. Article 43 of the Statute states that indigenous income is the result of the application of the goods and utilities (services) of the indigenous patrimony. The revenue is, of preference, used to benefit the community.

2.4 The protected area system

In Brazil, PAs are regulated by the National System of Conservation Units (NSCU),¹⁹ a unified system encompassing all federal, state and municipal protected areas. Primarily destined for conservation, Conservation Units are another type of land in Brazil, which can include both public and private land, and serve as another tool to combat deforestation.

The system includes 12 management categories divided into two groups of PAs: those under full protection and those allowing sustainable use of the land's resources. Protected areas under full protection are areas in which only indirect use of natural resources is allowed. These include:

15 The percentage of forested area is "established according to the percentage of rural property areas in which forests shall be preserved for the purpose of sustainable forest management. This percentage varies between 20 percent and 80 percent of the rural properties" (with 80 percent in the Amazon Forest). Art. 16, Law 4771/1965, *Forestry Code*.

16 Lei no.11.284/2006 de Gestão de Florestas Públicas (Law for sustainable management and production of forests).

17 Federal Constitution, *supra* note 8, Article 20(10).

18 *Ibid.*, Article 231, para. 2. ". . . exclusive usufruct of the riches of the soil, the rivers and the lakes existing therein".

19 Lei no. 9.985, de 18/07/2000. *Sistema Nacional de Unidade de Conservação de Natureza*.

ecological stations; biological reserves; national, state or municipal parks; natural monuments; and wildlife refuges.

Protected areas under sustainable use are intended to allow nature conservation and the sustainable use of natural resources. They include extractive reserves; sustainable development reserves; national, state or municipal forests; fauna reserves; environmental protection areas; areas of relevant ecological interest; and natural heritage private reserves.²⁰

Extractive Reserves and Sustainable Development Reserves allow income-generating activities. However, for such activities to be legally allowed there must be an approved MP elaborated with the participation of the local inhabitants. The Juma Project, a sustainable development reserve, is an example of a carbon PES project currently underway in which traditional communities can benefit from carbon project development.

2.5 State-level approach

At the sub-national level, States have also implemented their own climate change policies. The *Law for the State Policy for Climate Change*,²¹ adopted by the Amazonas State, is the first of these. The law promotes the creation of market instruments as well as the regulation of REDD schemes. The law also puts forward a state climate change fund “to pay for environmental products and services, including those provided by forest peoples preserving their environment and reducing deforestation”.²²

3. Carbon ownership

3.1 Ownership of payment for ecosystem services

Although there are a number of instruments that provide PES, no national policy for PES is in place. Brazil currently recognizes neither the legal concept of environmental services and their economic value, nor the conservation roles of landowners. Nevertheless, the Federal Constitution gives everyone the right to an ecologically balanced environment.²³ In addition, the Brazilian *Forest Code*²⁴ declares forests as natural heritage and establishes common rights for every inhabitant of the country. Together, these provisions imply that the State is the owner of ecosystem services for the common good.

The lack of a legal definition for PES was attributed to the modest success of the *Proambiente* Programme²⁵ – the government’s attempt to provide a system of PES rendered by small producers – which it had hoped to use as a model for the introduction of a national PES system.

20 Capobianco, J.P. (2009). “Brazilian Protected Areas and Climate Change”. World Wildlife Organisation.

21 State of Amazonas, Laws for the State Policy for Climate Change, (2007), (*Lei da Política Estadual de Mudanças Climáticas*, PEMC-AM) *Law no. 3135* (dated June 5, 2007).

22 Baker & Mackenzie, *supra* note 5, p. 19.

23 Federal Constitution, *supra* note 6, Article 225.

24 Lei n. 4.771, *supra* note 13.

25 Hall, A. (2008). “Better Red than Dead: Paying People for Environmental Services in Amazonia”. *Phil. Trans. R. Soc. B.* 363(1498): 1925–1932.

A National Policy for Ecosystem Services and a Payment for Ecosystem Services Programme are currently under discussion. If approved, six substitute bills²⁶ would establish the concept of PES in Brazil, and would institute a National Policy on Environmental Services to institutionalize PES amongst small-scale farmers, to be financed by international donations. The definition of environmental services in this bill was taken from the *Proambiente* Programme and includes REDD as well as carbon sequestration.

A third bill²⁷ to be introduced would attempt to secure permanent funding from the national budget and other domestic and international sources. These bills would together provide a legal and financial basis for expanding Proambiente into a national programme.

3.2 Ownership of natural resources

Protected areas are considered part of the public domain, and are therefore owned by the State. This means that forest peoples do not own the land, although some may have been living there for several generations. However, the State grants them the right to use the land, and they are responsible for the sustainable use of the land under the PA's MP.

By regulating access to public forests through the Brazilian Forestry Service, and providing financial support through the new National Fund for Forestry Development, the 2006 *Law on the Management of Public Forests* improves incentives to encourage sustainable productive activities. The law expressly prohibits the inclusion of terms in a forest concession which grant rights to commercialize credits from forestry concessions derived from avoided deforestation.²⁸ However, it leaves the right for states to commercialize credits from reforestation projects. As such, the right to sell carbon lies with the State.

While private ownership is permitted in Brazil, in practice, experience has created a complicated system of ownership, leading to insecure tenure and disputes over land ownership. Insecure tenure makes people vulnerable to being dispossessed, giving them less leverage in relations with government and the private sector.²⁹ As REDD initiatives may increase land values, this could accentuate the problem of dispossession.

Insecurity in land and forest ownership has undermined sound forest management as, without sound secure rights, forest users have few incentives to invest in protecting forest resources, leading to deforestation.³⁰ Without clear land title, one cannot prove land ownership and sell the forest's carbon. Furthermore, non-titled landowners can be evicted by more powerful stakeholders. Secure tenure is a critical part of forest governance as it can ensure the permanence of forests.

In an attempt to regularize title over public land in the Amazon, the *Terra Legal* Program (Legal Land Program, n. 11952/2009), was promulgated in June 2009. The new federal law is intended to set

26 The proposed substitute bills are 792, 1.190, 1.667, 1.920, 1.999 and 2.364.

27 Projeto de Lei 792 (2007) introduced by Deputy Anselmo de Jesus (PT-Roraima) and Projeto de Lei 1190 (2007) authored by Deputy Antonio Palocci (PT-São Paulo).

28 See Law on the Management of Public Forests (Law no. 11.284), Art. 16, para. 1.

29 Cotula, L. and Mayers, J. (2009). *Tenure in REDD: Start-point or afterthought?*, p. 3. Natural Resource Issues No. 15. London, UK: International Institute for Environment and Development (IIED).

30 *Ibid.*

new norms to define property rights, and it aims to establish regulation of titles to 80 percent of the private landholdings in Amazonia over the next three years.

Until now, concessions on public lands to private individuals for rural use were limited to 500-hectare units. The new law grants title to all landholdings in the Amazon up to 1,500 hectares occupied before 2005 by donating plots of 100 hectares to people farming them, and selling plots of 100–1,500 hectares at a reduced price. Plots over 1,500 hectares will be reclaimed by the government, and further land claims will be banned. The plan will be implemented by the Ministry for Agrarian Development and INCRA, a federal agency charged with distributing small plots of land.³¹

Critics say the new law will place 72 percent of the land under the control of seven percent of the population who may farm the land, raise cattle, and may sell the land after three years.³² Furthermore, it has been criticized as being a process of land privatization that condones ownership of illegally appropriated land by large landowners. Furthermore, some fear that this offer of free land may actually trigger deforestation in new areas, rather than curb the practice.

On the other hand, it is thought that the rectification of irregularly occupied public land in the Amazon may help efforts against deforestation. By establishing clearly defined property rights, it is hoped that without incentives to move further in to develop forest, occupants will stay and improve their land. In addition, once REDD schemes are established and funds are established, landowners will be incentivized to receive payment not to cut their trees, as opposed to moving to clear uncut forest. Furthermore, incorporation of more properties into a land register would make it easier to ensure landowners are abiding by the rules, and that benefits are distributed.

If the new law is signed into law, several factors will determine its contribution towards the success of REDD. First, implementation of the law must be efficient. INCRA, the agency historically in charge of distributing land in the Amazon, has a poor track record of helping out settlers. If the new legislation is going to incentivize people not to cut down trees, they must be provided with alternatives to their previous livelihoods.

Furthermore, illegal logging must be reined in. Under the current law, even though 80 percent of privately owned land is supposed to be dedicated to conservation purposes, this requirement is largely ignored by landowners. When regulators have tried to enforce the law, they have been met by strong resistance, and even violence.

3.3 State legal framework

Under the legal framework for the State of Amazonas, the natural resource owner is the State. The people have access to the natural resources for their own use, but the FAS are responsible for commercializing and managing them. In addition to granting use of the land to forest people, the Amazonas State legally transfers the right to commercialize and manage the products and services, including the carbon credits generated by standing forests to the FAS.

31 The Economist (2009a), *supra* note 12.

32 World Rainforest Movement (WRM). (2009). "Brazil: New legislation allows agribusiness to advance in the Amazon". WRM Bulletin N° 144.

The State of Mato Grosso has also recently enacted a law *Establishing the Executive Directors for the Fund for Forestry Development of the State of Mato Grosso*.³³ Dealing with forestry management, this law regulates both title registration through a property registration system, and a land registry that records the physical characteristics of the land.³⁴ The law also requires the landholder or occupant to obtain a single environmental permit or licence which specifies the landowner's conservation rights and obligations. However, the law does not determine whether a landowner is entitled to the carbon sequestration rights by engaging in forest conservation activities on his land.³⁵ This ambiguity should be removed to provide clear incentives to landowners considering whether to engage in forest conservation as opposed to some other more unsustainable practice.

4. REDD obligations

Many countries support an international market-based initiative to generate funds for avoided deforestation. Brazil, however, advocates a voluntary fund-based approach as a forest protection tool. Under this approach, REDD projects would receive direct financing under the UNFCCC, based on national policy drawing upon international funds donated by industrialized nations. Contributors would not be eligible for carbon credits that could be used to meet emission reduction obligations. Unlike the direct-financing approach taken at the federal level, the State of Amazonas aims to finance its deforestation reduction initiatives through the international marketing of carbon sequestration credits.

On indigenous lands, the Constitution recognizes *usufruct* rights³⁶ of indigenous communities over the natural resources of their lands. Therefore, even though forest lands are owned by the State, these groups have permanent usage rights.³⁷ These rights are classified, as the real right to explore the utilities, uses and fruits of the resource or property which includes the legal right to use and derive profit generated from the resource. Additionally, the Brazilian Civil Code recognizes that “the person who possesses the rights to the usufruct of a thing also possesses the right to the possession, use, administration and receipt of the fruits”.³⁸

Given Brazil's policy on a voluntary, fund-based national approach to REDD, it is doubtful that indigenous peoples would be allowed to enter into REDD agreements or contracts with private entities. However, indigenous communities would be entitled to the income generated by payments for REDD activities, and can enter into REDD agreements/contracts with the State. This becomes vital for REDD projects.

33 Lei Nº 8.723, de 23 de outubro de 2007 - D.O. 23.10.07. “Establishing the Executive Directors of the Fund for Forestry Development of the State of Mato Grosso”. August 18, 2008.

34 Baker & Mackenzie, *supra* note 5, p. 54.

35 *Ibid.*

36 Law n. 6.001/73, Statute of the Indian, 1973. Article 24 defines *usufruct* rights as the right to the ownership, utilization and perception of the natural resources and all the uses and utilities existing on the lands they occupy, as well as the product of the economic exploration of such resources and utilities.

37 Ogonowski *et al.*, *supra* note 13.

38 Law No. 3071, *Civil Code of Brazil* of 1916, Article 718.

5. Framework for benefit sharing

At the time of publication, there was no national level framework for benefit sharing. While Brazil's 2000 National Forest Programme aims to increase people's participation in policy development, there is little information on formal benefit-sharing arrangements.³⁹ The *Amazon Fund* would be the most likely mechanism through which benefit sharing would occur. However the Amazon Fund is still not fully functional, and no concrete measures or policies are in place at the moment to clearly explain how benefit sharing would take place.

The Amazon Fund, which was launched in August 2008, is a private fund which aims to provide positive incentives for forest preservation through the voluntary conservation sponsorship contributions it receives from developed countries and the private sector for the reduction of deforestation. The amount available each year hinges on the reduction of deforestation below a rolling ten-year average.⁴⁰ In order to receive funds through the Amazon Fund a project must comply with five thematic areas: sustainable use of forests; land tenure and territory planning; public forests and protected areas; conservation and sustainable use of biodiversity; and recovery of deforested areas.⁴¹

At the State level, the State of Amazonas initiated the *Bolsa Floresta* Forest Conservation Grant Programme (*Bolsa Floresta* Programme) under the Amazonas State Law for Climate Change. The programme is managed by FAS, and was established to pay traditional communities and indigenous people for their role in the conservation of forests and their environmental services. The funds for paying the benefits come from the interest on the existing resources from the State Fund for Climatic Change.

Under the programme, participants are required to:

- a) have lived on the State Conservation Unit for at least two years;
- b) keep crop and pasture areas not larger than those of the year when the Forest Conservation Grant Programme was instituted;
- c) if the families have children, they must be registered and regularly attend the school;
- d) participate in a Community Dwellers Association;
- e) participate in the construction and implementation of the Conservation Units and Management Plan, and;
- f) participate in an introductory workshop and sign a Zero Deforestation Agreement.⁴²

39 Cotula and Mayers, *supra* note 29, p. 30.

40 Baker & McKenzie, *supra* note 5, p. 18.

41 Schwartzman, S. (2008) "Indigenous lands, Amazon conservation and REDD". WWF commissioned paper. World Wildlife Fund.

42 Decree n. 26.958/2007.

The *Bolsa Floresta* benefit-sharing mechanism has four components. First, a Family Forest Grant pays a monthly allowance of R\$50⁴³ to the wife of each family living inside the PA that is willing to participate in the programme. Each family receives a direct cash payment through an electronic Visa card, which can be obtained from and used in banks and post offices, and aims to complement family expenses. Each family's details are registered, thus generating an important database for social environmental monitoring.⁴⁴ The payment is designed to involve the local population in activities to combat deforestation.

Second, a Forest Grant for Associations is granted to associations of people living in the PA. Payments for this allowance correspond to 10 percent of the total of Family Forest Allowances. The purpose of the Allowance is to strengthen organizational and social control under the programme. Payments are made directly to the association or through a local commercial credit. The resource use is based on a participatory budget discussed and approved within the families.⁴⁵

Third, a Social Forest Grant of R\$4,000 per year⁴⁶ is provided to each community. This allowance is designed to fund education, sanitation, health, communication and transportation initiatives. Projects under the allowance are decided by the community, and take place with the participation of the relevant government institutions collaborating with the project.

Finally, an Income Forest Grant of an average value of R\$4,000 per year⁴⁷ is provided to each community. This allowance helps to support sustainable agriculture, forestry, cattle ranching, and gathering NTFPs. All legalized activities that do not result in deforestation or smoke generation are eligible. Other State government actions include putting in place, and allocating financial support to, the following four programmes: monitoring and law enforcement, social investment, community development, and PES.

Initiated under the programme, the Juma Sustainable Development Reserve Project aims to produce reduced deforestation carbon credits for sale internationally. It is Brazil's first REDD project to comply with the Climate, Community & Biodiversity Alliance (CCBA) Standard. Under the *Bolsa Floresta*, local communities receive 100 percent of the benefits obtained in the voluntary carbon markets. All revenues generated from the Juma project must be re-invested in the PA to implement its management plan. In other words, they must be turned into real benefits to the PA and reward the forest people and communities. Table 1 shows the breakdown of the overall project budget.

43 R\$ 2.20 = US\$ 1 (April, 2009).

44 Fundação Amazonas Sustentável (FAS). (2009). "The Bolsa Floresta Program" (online overview of program). Available at <http://www.fas-amazonas.org/en/index.cfm?fuseaction=conteudo&id=19>. See also Fundação Amazonas Sustentável (Amazonas Sustainable Foundation). (2008). "The Juma Sustainable Development Reserve Project: Reducing Greenhouse Gas Emissions from Deforestation in the State of Amazonas, Brazil. Project Design Document (PDD)". pp. 71-72.

45 *Ibid.*

46 R\$ 350 per family per year.

47 R\$ 350 per family per year, based on the fact each community has an average of 11.4 families.

Table 1: The Juma Reserve REDD Project Investment Plan for 2008–2011

	R\$	Percentage of the total
(A) Monitoring and law enforcement	1,414,560	29.75%
(B) Bolsa Floresta social investment	693,000	14.58%
(C) Community development, scientific research and education	2,322,500*	47.90%
(D) PES – Bolsa Floresta**	324,280	6.82%
Grand total	4,754,340	
**Section (D) Bolsa Floresta breakdown:		
Infrastructure/equipment	24,000	7.40%
Payment to the families	170,000	52.42%
Payment to the association	17,000	5.24%
Community Investment Plans	113,280	34.93%

Source: Fundação Amazonas Sustentável (2008), pp. 73–74.

*Note – in the document, there was a discrepancy of 45,000 in the total for Maintenance Costs.

6. Information, participation and partnerships

The Constitution states that “all persons have the right to receive, from the public agencies, information of private interest to such persons or of collective or general interest...”⁴⁸ In 2003, Brazil passed its law on access to environmental information (Law No. 10.650 of April 16, 2003). The law applies to public agencies that have authority to implement the Brazilian National Environmental Policy Act. It requires these agencies to make public when asked to do so, or when necessary, all relevant information relating to environmental protection.

Brazil’s Constitution imposes a duty on the government and the community to defend and conserve the environment for present and future generations. This imposes an implied duty to participate in preserving the environment, and could be extended to participation in the development of REDD projects.

It will be important to incorporate participation from indigenous groups or local communities, because they have a very important role to play in forest conservation. For instance, the National Foundation of Indigenous People (FUNAI) has extensive experience bringing tribes and communities together to implement conservation policies in the Amazon. Furthermore, if the State is going to persuade farmers to adopt sustainable forest practices, they must bring them into the planning process, and inform them of alternatives for their livelihood, and incentives for conserving trees.

48 Federal Constitution, *supra* note 6, Article 5, XXXIII.

The Juma Project may be a good indicator of how future REDD projects will incorporate participation. The PA was created using participatory workshops and public consultations conducted by the FAS and SDS in order to guarantee the involvement and commitment of all local stakeholders, and to ensure their access to information. Furthermore, the Project will set up a Reserve Management Council,⁴⁹ which will be formed by community representatives, local stakeholders and governmental and non-governmental institutions. Its role will be to decide on the reserve's programmes and activities, to approve the annual operational investment plan, and together with the State Secretariat of Planning and Economic Development (SEPLAN), it develops the reserve's MP.

Families who want to benefit from the FAS can participate in a Community Association, therefore allowing them to exert collective influence on project activities and plans. In addition, the Deliberative Council for the Juma Reserve will play an important role in the management of the Reserve and in public decision making. This council will be formed with the participation of different actors, including local communities, authorities and civil society,⁵⁰ and it will be responsible for the major decisions concerning the project area.

7. Additionality

There is no national agreement on how to measure the additionality for REDD. Furthermore, a definition of rules at the national level is quite improbable, because of the large variability between national biomes. Such rules are more likely to be developed on the state level, and will depend on more detailed studies and discussions considering specific local deforestation and forest degradation drivers. The definition of these rules is expected to materialize together with UNFCCC efforts to create an international legal basis to promote REDD projects.

According to the deforestation simulation model "SimAmazonia I", the State of Amazonas could lose up to 30 percent of its forest cover by the year 2050 under "business as usual" (BAU) development patterns. The Juma Project uses the SimAmazonia I simulation as its baseline scenario, and subtracts from that projection the avoided deforestation of the Juma reserve area for each year up to 2050, when the project is supposed to end. In the absence of the project, the SimAmazonia I model forecasts the deforestation of 75.4 percent of the reserve. Therefore, the additionality and the generation of carbon credits from the reduction of carbon emissions from deforestation is defined by comparison with the BAU scenario since the creation of the Juma reserve in 2006.

Nevertheless, the concept of additionality will probably vary from state to state, and for different types of forest area. In Brazil the risk of leakage is high, because the sheer size and remoteness of the Amazon makes it hard to track forest activities. One way of mitigating this problem is to register titles to keep subsistence agriculture from creeping further into the forest. Furthermore, incentives to participating in PES schemes such as the Juma Project, where participants register their land with the project, can help with monitoring.

49 Lei n. 9.985, *supra* note 19, Article 20, para. 4.

50 Amazonas. Lei Complementar n. 53, de 05/06/2007. *Sistema Estadual de Unidades de Conservação Amazonas*, Article 5, Chapter V, para. III.

Another risk is that people might move outside a PA in order to engage in unsustainable forest practices. Recent studies on deforestation dynamics indicate that the single measure of creating a PA promotes a reduction of deforestation in the surrounding areas, due to the improvement of monitoring and governmental inspection activities, and to the increased orientation of local communities regarding the legal use of the forest. This effect was observed in the great majority of PAs created in the Brazilian Amazon, and the offsite “reduction of deforestation” that was generated varied from one to three percent of the size of the PA (Amazon Environmental Research Institute (IPAM), 2008)).

Inside the Juma Reserve, the entire surrounding area is monitored by the State and Federal Government as part of the project’s monitoring plan. This includes monitoring migration from the communities inside the Juma Reserve to other forest areas, as well as immigration. Furthermore, the 10 km “buffer zone” surrounding the Reserve’s perimeter⁵¹ is included in the Reserve’s MP. As such, all communities inside this area receive the same benefits from the Forest Allowance Programme applied inside the Reserve. This not only decreases incentives for inhabitants to move outside the PA, but it also creates incentives for communities not covered within the PA’s boundaries to participate. Furthermore, as a mitigation measure to guarantee that the off-site carbon stocks will not decrease, the project will commit to an investment in environmental education, health and improvement of environmental monitoring of at least 10 percent of the annual budget generated through the sales of REDD credits. As a result, the project is expected to additionally reduce deforestation outside the project boundaries, as compared to the baseline scenario. The timeframe of the project is 44 years with a review of the baseline in 2016. The crediting period began in 2006, when the boundaries of the project were defined, and ends in 2016.

8. Conclusions

The importance of the Amazon in the fight against global warming cannot be understated. Furthermore, Brazil is in a very good position to benefit economically from market and voluntary-based conservation measures to protect its forests. However, Brazil faces many hurdles on its way towards developing a coherent REDD policy. Given its enormity, policies that work in one area may not do so in another. Reforming land title, a large driver in historical deforestation in Brazil, has been tried before but has not succeeded. In addition, because of the many diverse indigenous groups that will be affected, Brazil’s government will need to be aware of customs and cultural differences, as well as the needs of different communities. If federal and state policies acknowledge this diversity, and bring individuals to the table to address the needs of local communities, they better the chances of curbing deforestation.

51 The area is at least 494,318 hectares.

