# Amazon Fund: financing deforestation avoidance

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**RESUMO**

### Financiamento da sustentabilidade: Fundo Amazônia

O Fundo Amazônia, criado pelo Governo Federal em 2008, é gerido pelo Banco Nacional de Desenvolvimento Econômico e Social (BNDES). Trata-se de uma iniciativa pioneira de captação e gestão de recursos de doações voluntárias para reduzir o desmatamento e promover o desenvolvimento sustentável a 30 milhões de habitantes do bioma amazônico. O Fundo Amazônia já recebeu doações no valor de R$ 1,7 bilhão (cerca de USD 787 milhões). Na pesquisa exploratória aqui relatada, analisam-se a governança e a gestão do Fundo Amazônia com foco em sua operação e na perspectiva dos seus *stakeholders*, utilizando uma combinação de metodologias que incluem: pesquisa documental, entrevistas em profundidade e análise de discursos. Apresenta-se, no estudo, uma análise comparativa das potencialidades e debilidades na gestão do Fundo Amazônia com relação à sua governança. Além de serem oferecidas recomendações para aprimorar a sua gestão, propõem-se medidas para elevar a sua eficácia no cumprimento de sua missão. Neste artigo, inclui-se, também, uma apreciação do governo da Noruega, principal doador do Fundo. A parceria do Brasil com os governos da Noruega e da Alemanha demonstraram a viabilidade política da gestão da cooperação internacional como meio de mitigar as emissões de gases de efeito estufa, via preservação da floresta tropical.

**Palavras-chave:** sustentabilidade, REDD, desmatamento, Amazônia, BNDES.

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## 1. INTRODUCTION AND OBJECTIVES

Brazil is one of the ten largest emitters of greenhouse gases in the world, and approximately 50% of its emissions are caused by deforestation, especially in the Amazon rainforest. Covering nearly six million square kilometers, with 30 million inhabitants and spanning over six countries: Brazil, Peru, Bolivia,

Ecuador, Colombia and Venezuela, the Amazon basin is the largest watershed on the planet. The Amazon biome covers an area of 4.2 million square kilometers over nine Brazilian states: Acre, Amapá, Amazonas, Pará, Roraima, part of Rondônia, Mato Grosso, Maranhão and Tocantins. The Amazon River runs through the region and discharges approximately 175 million liters of rainwater into the Atlantic Ocean every second, accounting for almost one fifth of all the fresh water river flow on the planet (*Ministério do Meio Ambiente* [MMA], retrieved March 30, 2013, from http://www.mma.gov.br).

The biome also holds the world's largest reserve of tropical timber, huge stocks of rubber, nuts, fish and minerals, in addition to natural gas and oil reserves. The region has a modest Human Development Index (HDI) and low population density. While urbanization is accelerating, a fragile ecosystem is being irreversibly damaged by human activities (MMA, retrieved March 30, 2013, from http://www.mma.gov.br).

The Brazilian National Environmental Policy is based on command and control mechanisms imposed by the State with foreseen penalties for the one who breaches the law. Chaotic land distribution in the Amazon, the encroachment of agriculture, extensive farming and continuous deforestation all challenge public authorities in effectively exercising command and control as well as enforcing penalties.

As a result, the National Institute for Space Research (*Instituto Nacional de Pesquisas Espaciais* [INPE]) announced a 27.83% year-on-year increase in the rate of deforestation in the Amazon, comparing its 2012 figure of 4,571 square kilometers with the 5,843 square kilometers of rainforest lost to deforestation in 2013. The estimate is calculated using the Amazon Deforestation Monitoring Project (*Programa de Cálculo do Desflorestamento da Amazônia* [PRODES]) method to digitally classify satellite images of the Brazilian Amazon rainforest on August 1st of the reference year (INPE, retrieved January 08, 2014, from http://www.obt.inpe.br/prodes/index.php).

Based on a report released by the INPE in November 2013, the most critical areas detected by DETER (*Detecção do Desmatamento em Tempo Real*), a real time deforestation detection system, lie in the states of Mato Grosso, Pará, Rondônia and Amazonas. Mato Grosso showed 1,184 square kilometers of devastated area, which corresponds to an increase of 25% when compared to the previous period, this increase was attributed to livestock farming. In Pará, a land grab and animal farming are driving deforestation along the stretch of the BR-163 highway between Cuiabá and Santarém. In the state of Amazonas, an 82% increase in reports of deforestation and degradation along the Trans-Amazonian highway in state's southern region is a cause for concern, again caused by pressures from encroaching livestock farming (Campos, 2013).

These data clearly illustrate the need to implement a new approach to socio-economic development for the Amazon, one that encompasses both the preservation of its biodiversity by conserving the standing forest while generating income

and adequate social conditions for its communities. The combination of command and control instruments and economic mechanisms focused on the development of a sustainable forest-based economy stand out as a suitable model.

This situation led the Brazilian Federal Government to establish, in August 2008, the Amazon Fund as a tool to facilitate and implement concrete actions from a grant pledged by the Government of Norway. Funded mostly by international grants, the Amazon Fund innovates with regards to public policy implementation. The Fund strives to consolidate a financial instrument for fundraising and project management to execute the Sustainable Amazon Plan (*Plano Amazônia Sustentável* [PAS]) as well the Plan for Prevention and Control of Deforestation in the Amazon (*Plano de Ação para Proteção e Controle do Desmatamento na Amazônia* [PPCDAm]). Its activities engage prominent and influential citizens committed to sustainable development strategies. The purpose of the fund is based on a multi-stakeholder management model.

The Amazon Fund relies on voluntary donations from foreign governments and companies, as well as grants from multilateral institutions, Non-Governmental Organizations (NGOs) and individuals. To date, the Amazon Fund has received contributions from the governments of Norway and Germany, as well as Petróleo Brasileiro S.A. [Petrobras], totaling over R$ 1.7 billion (about USD 787 million). Table 1 details the total amount received from donors since the launch of Fund's operations in 2009 until March 2014. The Norwegian government accounts for 96.7% of donations, followed by the government of Germany with 2.8% and Petrobras contributing 0.5%.

Although the volume of project portfolio through November 2013 is significant, the amount disbursed is considered low, representing 16% of the donations received so far, despite approximately R$ 628 million being committed to selected projects. Despite the huge fundraising potential and qualified personnel that manage it, the Amazon Fund reveals that over the first five years there has been a limited capacity in the expenditure of funds received, while the number of projects financed and proposals received are relatively high.

This study analyzes Amazon Fund management by Banco Nacional de Desenvolvimento Econômico e Social (BNDES)

*Table 1*

**Total Donations Received by the Amazon Fund**

| Donor | R$ | US$ |
|---|---|---|
| Government of Norway | 1.653.944.934,43 | 758.589.348,12 |
| Government of Germany – KfW | 48.779.500,00 | 22.937.514,42 |
| Petróleo Brasileiro S.A. – Petrobras | 9.168.517,62 | 5.124.044,90 |
| Total | 1.711.892.952,05 | 786.650.907,44 |

**Source:** Amazon Fund. Adapted by the authors with information retrieved March 13, 2014.

on behalf of the Brazilian Government, through the systematization of data and information.

## 2. LITERATURE REVIEW

The current economic development model is largely centered on the use of fossil fuels and extensive agriculture, where human activities contribute to the increase in the concentration of greenhouse gases in the atmosphere, thus causing irreversible consequences that can be catastrophic in many parts of the planet.

The report of the Brazilian Panel on Climate Change (*Painel Brasileiro de Mudanças Climáticas* [PBMC], 2012) depicts a scenario where natural climate variation combined with human action will result in unprecedented weather extremes, as well as the exposure of the vulnerability of human society and natural ecosystems, especially for the poorest populations.

> The extreme events of droughts and prolonged droughts, especially in the biomes of the Amazon, Cerrado and Caatinga, should increase and these changes are likely to become more pronounced after the middle and towards the end of the 21st century. The temperature in the Amazon is predicted to increase gradually from 1ºC to 1.5ºC by 2040 — with the volume of rainfall decreasing between 25% and 30% —, between 3ºC and 3.5ºC in the period from 2041 to 2070 — with a reduction of 40-45% in the occurrence of rainfall — and from 5°C to 6°C between 2071 and 2100. While the climate changes associated with global changes may compromise the biome in the long term, the current issue of deforestation resulting from the intense activities of land use represents a more immediate threat to the Amazon (PBMC, 2012).

The forecast of climate change in the *Amazônia Legal* (literally: Legal Amazon; the name given to the socio-geographic region that compromises all nine Brazilian states in the Amazon Basin) and its impacts indicate a disturbing scenario (Margulis & Dubeux, 2010). It is estimated that climate change may provoke a rise in average temperature of 7–8°C by 2100, will result in approximately 40% of the current Amazon forest cover being replaced by savanna biome which will in turn destroy an estimated 12% of the vertebrate species in the area. Analyses of the combined effects of deforestation and climate change in the region, which currently holds the greatest biodiversity on the planet, suggest that up to 40% of those species will become extinct. The most severe impacts are predicted in regions where there is a high level of poverty and dependence on environmental services (Strassburg, 2009).

These figures are alarming and indicate that command and control mechanisms, which are the basis of the Brazilian environmental policy, must be improved, since Amazon deforestation, while in relative decrease, has continued in this period. Nevertheless, Brazil has huge potential for mitigation activities. Margulis and Dubeux (2010) argue that it is necessary to use several legal and economic mechanisms to fight deforestation in the Amazon, such as the design and implementation of instruments for financial compensation, on a global scale, for environmental services provided by a preserved forest.

The above scenario proves the need to promote a new logic regarding natural resources and land. Such logic would include incentives toward preservation, recognition and support to those responsible for preserving the forest, investment in technology and stimulation of economic and social agents to promote education toward environmental sustainability and innovation.

An overhaul of government and private strategies to tackle a problem that involves the very existence of humankind on earth is imperative (Marcovitch, 2006). Market mechanisms such as Reducing Emissions from Deforestation and Forest Degradation (REDD) and Payments for Environmental Services (PES) are in line with such a premise, since they enable emission reduction and poverty eradication through financial compensation to local communities that preserve their forests (Viana, 2009).

Since the 1970s, the Amazon region has been integrated into the national economy through extensive farming and raw material extraction, which have led to a depletion of natural resources, social inequalities and poverty (Moutinho *et al*, 2011). Development projects such as the construction of the Trans-Amazonian highway have also been the catalyst for enormous social and environmental impacts on the region. Other projects implemented in the late 1980s, such as the use of Agent Orange as a defoliant in Tucuruí, led to environmental disasters. In addition, the alarming rates of deforestation, hunting and overfishing, the increasing conflicts between traditional communities and rubber-gatherers, which culminated in the death of Chico Mendes (Brazilian rubber tapper, trade union leader and environmentalist), subsequently incited the international community to demand action from the Brazilian government (*Instituto Brasileiro do Meio Ambiente e dos Recursos Renováveis* [IBAMA], retrieved December 21, 2013, from http://www.ibama.gov.br/acesso-a-informacao/historico).

International and local pressure demanding a set of government actions towards the formulation and implementation of environmental policies began in the late 1980s. The Brazilian government openly resisted pressures from various groups supporting preservation of the Amazon and opposing commercial exploitation (Andonova, 2014). As part of the response to these pressures, the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) was created in 1989, and in 1992 the Brazilian Ministry of the Environment (MMA) was established.

Throughout the 1990s, local and international environmental organizations, such as Greenpeace and the World Wildlife Fund (WWF), have expanded their activities in

Brazil. One of the first initiatives of the transnational public-private partnership in the environmental field was the Amazon Region Protected Areas Program (*Programa* Áreas *Protegidas da Amazônia* [ARPA], retrieved December 21, 2013, from http://programaarpa.gov.br/pt/). With support from the World Bank, the German government, the WWF and BNDES (Brazilian Development Bank), the Brazilian federal government launched the program in 2002 aiming to preserve 60 million hectares of the Amazon and encourage local sustainable development, to be implemented in 13 years (ARPA, retrieved December 21, 2013, from http://programaarpa.gov.br/pt/2013; Andonova, 2014).

In this context, transnational public-private partnerships are a manifestation of the restructuring of environmental governance in the context of globalization, and this collaboration is the result of major political transformations within and between nations. This model provides a means for governments and transnational players to try new instruments to promote environmental preservation as part of a proposal for a system of global governance which has proved to be an increasingly complex ideal (Andonova, 2014).

## 3. RESEARCH METHOD

The present methodologically diverse, qualitative, descriptive exploratory research was conducted through a triangulation of data collected from different study sources (Collis & Hussey, 2005). The triangulation enabled us to obtain different views on the research problem in different contexts.

Two data collection techniques were applied to maximize the quality of our research, namely:
- Documentary research – as secondary sources and supplementary data, content available on the websites of the Amazon Fund and environmental organizations were analyzed. Such content included reports, studies, minutes of meetings of the Amazon Fund Steering Committee (*Comitê Orientador do Fundo Amazônia* [COFA]) and the Amazon Fund Technical Committee (*Comitê* Técnico do Fundo *Amazônia* [CTFA]) and contributed positively to the analysis, which was performed using data triangulation.
- Interviews – to collect the primary data, 8 semi-structured in depth interviews with specialists and scholars were done in person or by phone. The interview scripts were adjusted for each individual respondent.

Both the primary and secondary data were analyzed using content and speech analysis methods. Exploratory research was carried out on the documents before applying the interviews and during the production of the research report. In depth speech analysis provided insight into the explicit and implicit meanings in texts to identify the interaction between the members of an organization and the manifestations of bargaining power (Martins & Theóphilo, 2007).

The sample included key Amazon Fund stakeholders, comprising experts and researchers, Amazon Fund proponent institutions, members of COFA and CTFA, the Brazilian Development Bank (BNDES) and the governments of Norway and Germany. We were unable to secure interviews with representatives of the Brazilian Ministry of the Environment.

Primary data were collected during a visit to the Amazon Fund management unit at BNDES in Rio de Janeiro and through in-person or telephone interviews with representatives of the Norwegian government and other experts. In compliance with research ethics and confidentiality agreements with the respondents, with the exception of the representatives of the Norwegian government and BNDES, the confidentiality of the interviewees was ensured in this study.

The experts interviewed are publicly recognized for their quality publications and outstanding experience in environmental issues. Furthermore, they lead or are part of teams responsible for significant initiatives in the Amazon, engaged in projects, research and/or public policy, as well as being deeply familiar with the Amazon Fund. Their profiles are summarized below and illustrated graphically in Figure 1:
- Director of research institute in the Amazon, well-known scholar and researcher with over 30 years' professional experience.
- Foreign national environmental economist and researcher at an environmental institute in the Amazon.
- Director of an international environmental organization, with over 30 years' experience as a researcher and manager, having served as environmental initiative liaison to the World Bank.
- Specialist in environmental policy, journalist, with 20 years' experience as coordinator of initiatives focused on public
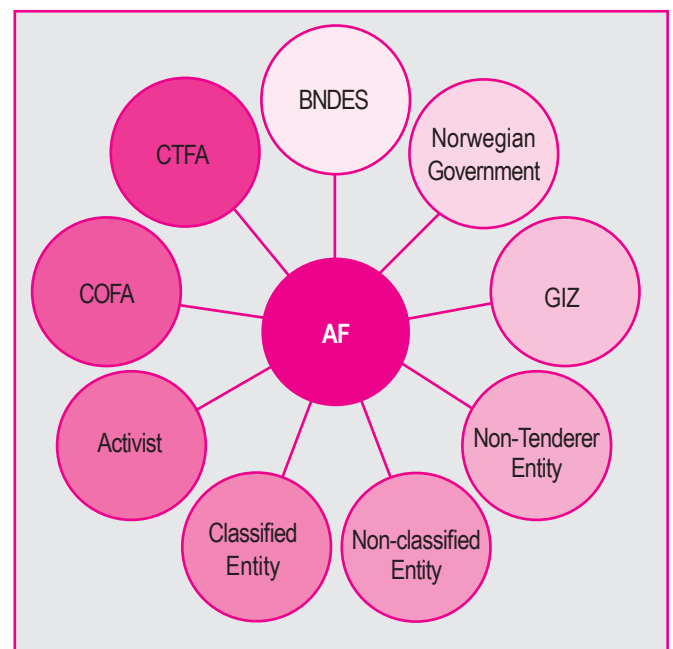


*Figure 1: Amazon Fund Stakeholders Interviewed*

policy in the Amazon region, in addition to advising government agencies and Third Sector entities, i.e. private initiatives of public interest.

- Former secretary for the environment in one of the Amazon region states, who also served as a director of environmental organizations and is currently a consultant for an environmental agency of international cooperation.
- Founder and director of an environmental organization, expert in sustainability, public policy, the Amazon and tropical rainforests, advisor to several organizations and companies in Brazil and abroad.

## 4. ANALYSIS AND DISCUSSION OF THE RESULTS

Analysis of the primary and secondary data enabled identification of the main strengths and weaknesses of the Amazon Fund from the perspective of its stakeholders. Results analysis and discussion have been categorized into five key topics, which were investigated in greater detail in the interviews with experts, followed by a consultation with the Norwegian government, the fund's main donor, about the performance and management of the Amazon Fund.

### 4.1. Governance and organizational structure

The Amazon Fund governance structure has a Steering Committee (COFA) that includes the federal government, the states comprising the Amazon biome and civil society. This committee is responsible for defining the guidelines and criteria for the investment of resources. The Technical Committee (CTFA) is formed by experts charged with certifying the carbon emissions caused by deforestation according to calculations made by the Brazilian Ministry of the Environment and based on information provided by the INPE. Figure 2 illustrates the flow of decisions concerning governance of the Fund.

The Amazon staff, a team of 20 well-trained professionals, including a director and five management divisions, reports to BNDES' Environment Division. BNDES provides the infrastructure and resources without due appropriation of such costs — such as the Amazon Fund team's wages, for example — to the Amazon Fund budget. Only direct and exclusive expenses incurred by the fund's activities are entered into the accounts in order to calculate Amazon Fund operating costs.

The multiple stakeholder management model is considered innovative, because it includes civil society entities and representatives of institutions from diverse backgrounds, which contribute to guidelines defined within an institutional framework. This would enable COFA and CTFA members to provide an effective in-depth technical evaluation for the project portfolio. In practice, however, the opportunities available to make better use of committee members' knowledge and experience are still to be fully exploited.

Another important aspect in Amazon Fund governance is the alignment and integration of the objectives of the
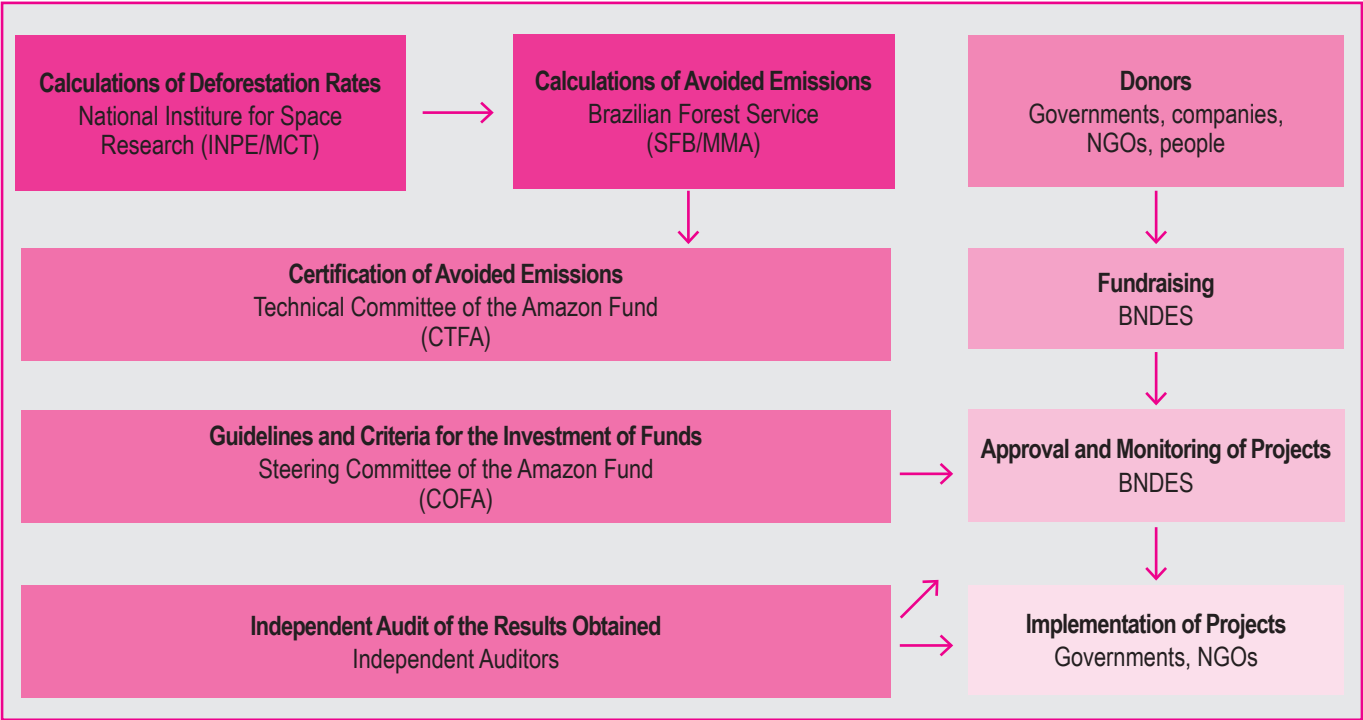


**Source:** BNDES (2011, p. 23).

*Figure 2: Amazon Fund Governance*

fund's administrator, BNDES, the Brazilian Ministry of the Environment, responsible for environmental public policy and those of the chairman of COFA, a key entity for outlining the fund's direction and focus. The effective operation of the steering committee and its managerial effectiveness depends on how it is conducted. In light of this, it should be noted that the COFA was not summoned by the Brazilian Ministry of the Environment in 2012 so there is still room to improve the performance of the committee, which is now seen as an imposition of the outlined structure.

BNDES and the Brazilian Ministry of the Environment could better align Fund management practices with the priorities of Brazilian public policies focused on the northern region. On one hand BNDES is seen as bureaucratic with respect to management of the Amazon Fund, on the other, participation by Brazilian Ministry of the Environment could be considerably more effective. In 2013, the Brazilian Ministry of the Environment and BNDES structured a governance work group to discuss issues related to Amazon Fund project portfolio. This initiative has provided a significant and positive contribution to the review of the fund's project portfolio.

BNDES efforts to oversee efficient management of the fund are notable. Since the Bank's expertise is centered on financing major projects in the private sector or governments with refundable investments backed by real collateral, the technical teams of the Amazon Fund had to adapt the processes to evaluate projects financed with non-refundable financial resources. Consequently, the BNDES learning curve explains the delay in starting the operation, including the definition of criteria and operational procedures of the fund, as well as the composition of the portfolio.

Staff members selected from among BNDES-tenured professionals from different areas and technical domains formed the Amazon Fund team established in Rio de Janeiro. Highly qualified professionals trained to deal with loans and other refundable resources mostly provided by the National Treasury. Unusually, the Amazon Fund funds derive from non-refundable grants to finance projects in the Amazon to be implemented mostly by governments or NGOs.

Another important aspect to be considered is the difference in institutional culture between BNDES and the proponents of the Amazon Fund generating, during the initial phase of the learning curve, conflicts between the different ideas. This conflict stems from the lack of a deeper understanding by the bank's personnel about the issues and field experience and on the side of the proponents, a lack of understanding of the Brazilian Federal Court of Accounts restrictions imposed on the bank. Ideally, there should be more flexibility to hire professionals with recognized expertise in the northern region to support the BNDES team.

In this respect, the partnership with the German Agency for International Cooperation (*Gesellschaft für Internationale Zusammenarbeit* [GIZ]) is noteworthy. The institution set up an office to support the Amazon Fund in Rio de Janeiro, providing a team of experts dedicated to both the fund and BNDES. Its focus has been offering guidance to the states of the Amazon biome about funding strategies and workshops on how to support the development of strategic issues such as the Rural Environmental Registry (*Cadastro Ambiental Rural* [CAR]). The GIZ also hires experts to lecture Amazon Fund staff on specific topics.

Amazon Fund's influence on the BNDES process of analysis and decision-making is somewhat controversial. While BNDES states that the fund significantly influenced its operation by creating the BNDES Environmental Division, the bank has not changed its processes as a result of the knowledge acquired from the Amazon Fund operation. It was expected that such an experience would influence its risk management, criteria for funding and more lines of credit focused on sustainability. There was no such change and, to date, the BNDES maintains its position of not adhering to the Equator Principles.

## 4.2. Project Portfolio

The creation of the Amazon Fund's project portfolio required scaling-up a learning curve from BNDES' thematic domains to the fund's focus. It was necessary to better understand the demand before an increase to the number of approvals. Therefore, there was a delay in the building up of an initial project portfolio. This is understandable, since it involves a very specific initiative, with a significant volume of financial resources and investments.

The current Amazon Fund's project portfolio is diversified and the Amazon Fund team has limited capability to appraise inputs, results and future impact of the initiatives to be supported. Current projects do not interact between one other with evidence of scalability, replication and consolidation of innovative methodologies for wider dissemination. The perception of some of the experts interviewed is that the Amazon Fund could do much more through synergy between projects.

According to data updated by BNDES in January 2014, the Amazon Fund's project portfolio comprises 52 projects, with an investment of R$ 821 million (about USD 350 million). The first project started in December 2009, and the highest concentration of projects lies in the State of Pará, accounting for 25% of the portfolio. 56% of the financial amount of the projects is led by states, followed by NGOs with 28%.

Until January 2014, of an approved portfolio of R$ 821 million, only R$ 227 million (about US$97 million) was disbursed to 35 of the 52 projects supported. According to BNDES, it is possible that part of the projects approved, will not receive disbursement due to lack of capacity for implementation by the tenderer and compliance with requested documentation.

The current volume of the Amazon Fund's project portfolio is quite significant. However, the number of projects with disbursement is still small compared to the potential of the fund.

As of January 2014, only 13% of the fund's available resources have been disbursed. This scenario reveals the fund's low capacity for execution.

In addition, if BNDES funds allocated to the Northern region were better aligned to social and environmental goals, they could also have a significant impact on the reduction of deforestation converging with Amazon Fund targets. According to "Publica", an Investigative Journalism Agency, which accessed 43 BNDES refundable investment agreements earmarked for infrastructure projects in the Brazilian Amazon, many companies and states disrespect the contractually agreed social and environmental commitments. The contracts examined by the agency were executed in the period between 2008 and 2012, and account for more than R$ 62 billion (about USD 26 billion) financed by BNDES (Publica, 2013).

BNDES internal process is a key reason for the delays both in using Amazon Fund resources and to expand its project portfolio. Moreover, a complex evaluation criteria and extensive mandatory documentation required from tenderers results in many proposals being abandoned or rejected.

According to the fund's COFA-defined guidelines, the Amazon Fund's focus of operation for the 2013–2014 period will be oriented by the PPCDAm's guidelines: monitoring and control, promotion of sustainable productive activities, land and territorial planning, as well as scientific and technological development. Based on this strategy, and in line with government priorities, the Amazon Fund will prioritize implementation of CAR in the Amazon states over the coming years.

These new priorities have generated discussions about the Amazon Fund's financing. The current minimum of 210 days to appraise proposals is far too long. The complete cycle of a project comprises the stages of classification, analysis, approval and contracting. The analysis of the projects undergoes the routine procedure of BNDES, with bottlenecks in several stages of the process. BNDES has no deadlines for classification, analysis of proposals, disbursements, or reply to tenderers. COFA has no interference on these deadlines, and the definition of these deadlines is at the sole discretion of the bank, resulting in a significant delay in the classification of proposals and release of funds.

The criteria for approval and disbursement of projects follow the usual rules of BNDES, according to its operational policy. Thus, there is a risk of a lack of professional qualification among the BNDES team members responsible for the appraisal of complex initiatives. Non-refundable funds turn the proposals submitted to the Amazon Fund even more unusual. In the classification process, the Amazon Fund's professionals are responsible for the final appraisal of the proposals received.

The main causes identified in this study for the rejection of a large number of proposals are: non-compliance with the Amazon Fund's guidelines and criteria; an amount that exceeds pre-established limits; a lack of proven technical capability to implement the project; project unrelated to the organizational mission of the tenderer; low technical quality of the proposal; proposals with incomplete or dubious information; proposals submitted by consultants on behalf of municipalities; and finally problems in the record identification of the project leaders and managers of the tendering entities.

In addition to the causes identified above, institutional characteristics between BNDES, one of the largest public investment banks funded by the National Treasury of Brazil and the tendering institutions, usually small NGOs, small municipalities and State Governments of a distant Northern Region, also gives rise to the causes for non-approval of a large number of proposals. The way in which the proposals are drafted, the understanding of the priorities and the relations of cause and effect of priority actions against deforestation are subject to different interpretations by the tenderers and BNDES.

On the other hand, there seems to be no other institution more appropriate than BNDES to manage the Amazon Fund. The BNDES was chosen for its legitimacy and transparency. For being a pioneering initiative with non-refundable funds, there was a great expectation regarding the efficient management that produces concrete and significant results with innovative and replicable methodologies.

### 4.3. Support for the Amazon Fund operation

The fund's institutional relations and communication, with special reference to the Amazon Fund website, have proven to be adequate and transparent. The Fund's communication with its stakeholders, which is continuously updated, includes annual reports, monthly reports, as well as financial and quarterly update of the project portfolio. The Amazon Fund's staff quite often welcomes international delegations, researchers, potential donors, journalists, government and civil society representatives. It also promotes and participates in national and international events aiming to promote the Amazon Fund and its impact.

Two points for improvement should be highlighted with respect to the processes of communication and transparency in the procedures, namely feedback on non-approved proposals and discretion. The technical opinion of BNDES on the causes of non-approved projects is important, especially when it comes to a fund that uses resources arising from international agreements. In addition, such technical judgment allows tenderers to identify the gaps and prepare proposals better in the future.

If the causes for project non-approvals were fully disclosed, it would allow the original tenderer or another tenderer to submit improved proposals to the fund. The requirement of BNDES regarding the structure of the proposal, the extensive documentation required and the strict deadlines to submit any clarification or additional documentation requires time, financial costs and dedication from the tenderers over a long period of time. It is therefore legitimate for the tenderer to receive a technical opinion, and the Amazon Fund would act as a qualifier and

contributor to improving the quality of the proposals submitted by the tenderers.

The caution regarding the criteria of approval and an undisclosed level of requirements should be reassessed, since it leads to a lack of transparency with respect to the procedures and criteria of the fund.

## 4.4. Monitoring and evaluation

Although Amazon deforestation displayed an increase in 2013, the INPE reported a 29% reduction in deforestation from August 2011 to July 2012 (INPE, retrieved January 08, 2014, from http://www.obt.inpe.br/prodes/index.php). Nevertheless, whether or not the reduction of deforestation over the observation period is an impact of the projects financed by the Amazon Fund or not. Means to measure the effectiveness of the actions supported by the fund are to be conceived and implemented ideally by an independent third party. Reduction of deforestation is related to several factors in the region; inspection, creation of protected areas, land regulation, sustainable economic incentives and the adaptation of farming activities. A model to appraise the Amazon Fund's effectiveness should take into account most of those factors.

The monitoring and evaluation of projects approved with non-refundable funds led Amazon Fund's staff to develop a framework for results monitoring. It is a management tool used to ensure that the actions financed with Amazon Fund resources contribute to the overall goal of the fund.

The creation of an effective monitoring and evaluation program is crucial to the program's success. Focusing on the guidance and systematization of successful solutions may become a reference for future projects. In this sense, a robust program to evaluate results and impacts would contribute to improved accountability, based on concrete results and contributing to the consolidation of the initiative.

In this sense, the focus for monitoring should be in the improvement of project implementation, as opposed to the supervision of initiatives and accountability to donors and society. Monitoring and evaluation should be the basis for the adjustment of priorities and activities of the fund as well as to systematize the innovative solutions that display successful replication potential.

During the research, the Amazon Fund's need to provide technical assistance in both the preparation of the proposals of tenderers became apparent, as well as the monitoring of the initiatives supported during implementation.

Most states in the Amazon biome need to develop technical capabilities to conceive proposals and implement robust programs focusing on deforestation reduction and promotion of sustainable development within the local economy. The Amazon Fund should support implementation, monitored by metrics and national goals, and integrated into the local supply chains. This requires new governance; an integrated program rather than individual projects, on a larger scale, with expanded results, and ample political commitments to induce actions at the municipal, state and federal levels.

Therefore, there is an opportunity for the Amazon Fund to improve project monitoring, to establish indicators, to allow comparison between initiatives and upscaling results through a programmatic approach.

## 4.5. Fundraising and financial sustainability

The Amazon Fund's fundraising is conditional upon the reduction of greenhouse gas emissions arising from Amazon deforestation. In short, the calculation is based on the difference between the historical average deforestation rate and the deforested area effectively measured in the year under assessment (historical average deforestation rate — annual deforestation rate), then multiplying this result by the amount present in biomass, in tons of carbon per hectare. The calculations are made by the Brazilian Ministry of the Environment, established on information provided by INPE, and certified by members of the CTFA.

The fundraising model is robust, transparent and based on proven results, a major strength of such an initiative. However, if the Amazon Fund intends to raise more funds and attract new donors, it will be necessary to adopt effective monitoring and evaluation processes that are in line with projects that deliver a convincing reduction of Amazon deforestation. This factor directly impacts upon the Amazon Fund's ability to attract new funds.

Additionally, the current global economic scenario is challenging and unfavorable for fundraising. Among the key factors that inhibit potential donors are the global economic crisis, mainly from European countries and the United States, geopolitical conflicts, and the change in the perception of Brazil in the international setting as a country dependent on external financing.

The financial sustainability of the Amazon Fund was reinforced in September 2013 through the extension of the bilateral cooperation agreement between the governments of Norway and Brazil. This agreement covers at present a period of cooperation of between 2015 and 2020 (Noruega, 2013).

However, the Brazilian Ministry of the Environment and BNDES has not yet mobilized other sources of donations, and the fund is currently limited to three donors, and still displays a great dependence on funds from the Norwegian government.

## 4.6. Position of the Norwegian Government

Climate change is treated as a priority by the Norwegian government. In 2008, Norway established the target to reduce its greenhouse gas emissions by 30% by 2020, based on its 1990 emissions. It also established an ambitious plan to become a carbon-neutral country, reducing 100% of its

emissions by 2050. These goals, approved by the Norwegian Parliament in April 2008, were discussed and validated by almost all political parties, except for one opposition party. The approval of these goals meant a formal commitment to climate between the parties.

Norway also wants to contribute to mitigate climate change internationally. In 2007, the Norwegian government decided to invest up to three billion NOK annually to contribute to the reduction of deforestation and forest degradation. This initiative was launched in Bali by Prime Minister Jens Stoltenberg. To achieve this goal it was necessary to establish a regime to reduce emissions from deforestation and forest degradation (REDD+) through international cooperation, and work directly with countries where these emissions occur. Brazil and Indonesia are responsible for half of annual emissions in the world. Thus, these countries were found to be important partners in the reduction of emissions from deforestation and for the establishment of an international cooperation agreement.

The Amazon Fund, introduced for the first time at the 2007 Conference of Parties (COP) in Bali, was quite in line with the way of thinking and climate change strategy of the Norwegian government. In addition, Brazil had the capacity to measure deforestation and had already demonstrated the political will and ability to reduce deforestation. Thus, Brazil was the first country to receive the support of the International Climate and Forest Initiative, led by Ambassador Hans Brattskar. The initiative is intended to support actions to reduce emissions from deforestation and forest destruction in developing countries.

In 2008, the Norwegian government pledged support to the Amazon Fund with a declared intention to transfer approximately US$ 1 billion by 2015, subject to the achievement of results. Norway was aiming with this donation to contribute to a structure of incentives aimed at reducing emissions from deforestation, which could then fund the conservation and sustainable use of the rainforest.

The renewal of the cooperation agreement between the two countries was announced in September 2013 through the extension of the use of funds until 2020. Based on this extended agreement, the Norwegian government also transferred that month approximately 2.8 billion NOK (approximately R$ 1 billion) to the Amazon Fund. The amount was deposited in an account in Norway earmarked for the Amazon Fund (Noruega, 2013).

The main factors that led the Norwegian government to support the AF are the mechanism for fundraising conditional upon the reduction of greenhouse gas emissions originating from deforestation based on earth observations conducted by INPE; as well as the guidelines of the fund, established by COFA, to contribute to sustainable development objectives and CTFA accountability.

In general, the Norwegian government's evaluation regarding the results of deforestation is very positive. However, there is an expectation of higher efficiency through quality projects.

It was concluded that the management of the Amazon Fund, could be improved in the following aspects:

• Adjust project approval procedures to the fund's objective. Such adjustments would clarify governance responsibilities and improve Fund's management efficiency;
• Clarify the Fund's strategy to promote sustainable development in the Amazon region; and
• Ensure that important projects with demonstrable effects are developed by key stakeholders.

The Norwegian government reported that it has a direct and continuous dialogue with Brazilian partners with respect to the governance of the fund, criteria for evaluation and approval of projects, the management of BNDES and the sustainability of international cooperation.

### 4.7. Future studies regarding the Amazon Fund

The following research limitations should be considered: the subjectivity in the techniques of document and speech analysis, as well as the lack of participation from representatives of the Brazilian Ministry of the Environment.

As a recommendation for further studies, a new study at a later stage of the fund could show a different situation regarding its performance. Its management practices, including new practices for the analysis of proposals, could lead to a robust portfolio with sound outcomes.

In addition, to follow up on this research, a comparative study of the management of the Amazon Fund in Brazil and the REDD initiative in Indonesia is to be considered, both supported by the Norwegian government. This comparative assessment could contribute to the guidelines of the "Green Climate Fund", a multilateral initiative established in the Republic of Korea, which aims to provide funds to reduce global emissions arising from deforestation.

### 5. FINAL CONSIDERATIONS

The Amazon Fund's management model is unique, combining strategies and knowledge from private philanthropic funds and environmental conservation funds. Its innovative characteristic is based on three aspects: fundraising based on the evidence of results; multi stakeholder governance with managerial autonomy; and low management cost, taking into account that the staff and infrastructure are provided by BNDES. Those three aspects of the fund, in addition to forest observation conducted by INPE, position the Brazilian initiative as a relevant experimental model of rainforest conservation where human development is associated with preservation.

The Amazon Fund is integrated in a complex political environmental context, which includes economic interests of different players, changes in the Forest Code, a change of staff in the Brazilian Ministry of the Environment over the past

few years and government programs that overlap each other. The improvement of BNDES staff capabilities over the years is remarkable, as well as the learning curve of the bank with respect to the operation of the fund and in the articulation with the federal government to promote changes in the Brazilian legal framework. In addition, the time required by BNDES to advance in the learning curve is understandable in the operation of an unprecedented fund with those characteristics.

Despite the significant advances of the Amazon Fund since 2009, outcomes are to become more consistent with the urgency to reduce deforestation in the Amazon. The current management model, which highlights a major concern with the auditing issues imposed by the Brazilian Federal Court of Accounts and lack of transparency, inhibits the tapping of the full innovative potential of the fund. To bring out this potential, it is necessary to improve its governance structure with respect to the usual operating policies of BNDES related to the Fund's non-reimbursable resources.

The Amazon Fund should be a support program for public policies and private initiatives of local development fully integrated with the Amazon's needs. Hopefully, the Amazon Fund will show greater agility in the support to initiatives that reduce deforestation in the Amazon, through the generation of income, social inclusion and territorial development.

From the Amazon Fund's experience other models could be replicated in the Amazon biome or in other rainforests in the world. Thus, the Amazon Fund could be just an additional fund or become a global benchmark.

Amazon Fund appraisal is important to encourage new and ambitious commitments in the international climate change agreements to be embraced in the upcoming years. A low capacity for implementation in relation to disbursements and projects outcomes may result in the decline of the Brazilian position in international discussions, especially considering the fact that Brazil has always advocated that the preservation of natural resources in developing countries should be financed mainly by developed nations.

On the other hand, the transnational partnership with the Norwegian and German governments suggest the viability regarding the management of international cooperation as a mechanism to mitigate greenhouse gas emissions through rainforest preservation. Over the next few years, the outcomes and impacts of the Fund's projects may demonstrate significant results arising from renovated institutional development. Therefore there would be proven advances in the environmental preservation goals and made possible through the transnational partnership between Brazil, Norway and Germany, three nations committed to environmental sustainability. ◆

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**ABSTRACT**

**Amazon Fund: financing deforestation avoidance**

The Amazon Fund, created in 2008 by the Brazilian Federal Government, is managed by Banco Nacional de Desenvolvimento Econômico e Social (BNDES). It is a pioneering initiative to fundraise and manage financial resources to cut back deforestation and support sustainable development for 30 million inhabitants in the Amazon Biome. The Amazon Fund has already received more than R$ 1.7 billion in grants (about USD 787 million). This essay analyzes the Amazon Fund's governance and management with focus on its operation and from its stakeholders' perspectives. A combination of research methods includes: documental research, in-depth interviews, and speech analysis. The study offers a comparative analysis of strengths and weaknesses related to its governance. Furthermore, it proposes ways to improve its management towards greater effectiveness. The essay also includes an assessment of the government of Norway, a major donor to the fund. The governments of Norway and Germany, in partnership with Brazil, reveal how important it is to experiment with new means of international cooperation to successfully reduce greenhouse gas emissions through rainforest preservation.

*Keywords*: sustainability, REDD, deforestation, Amazon, BNDES.