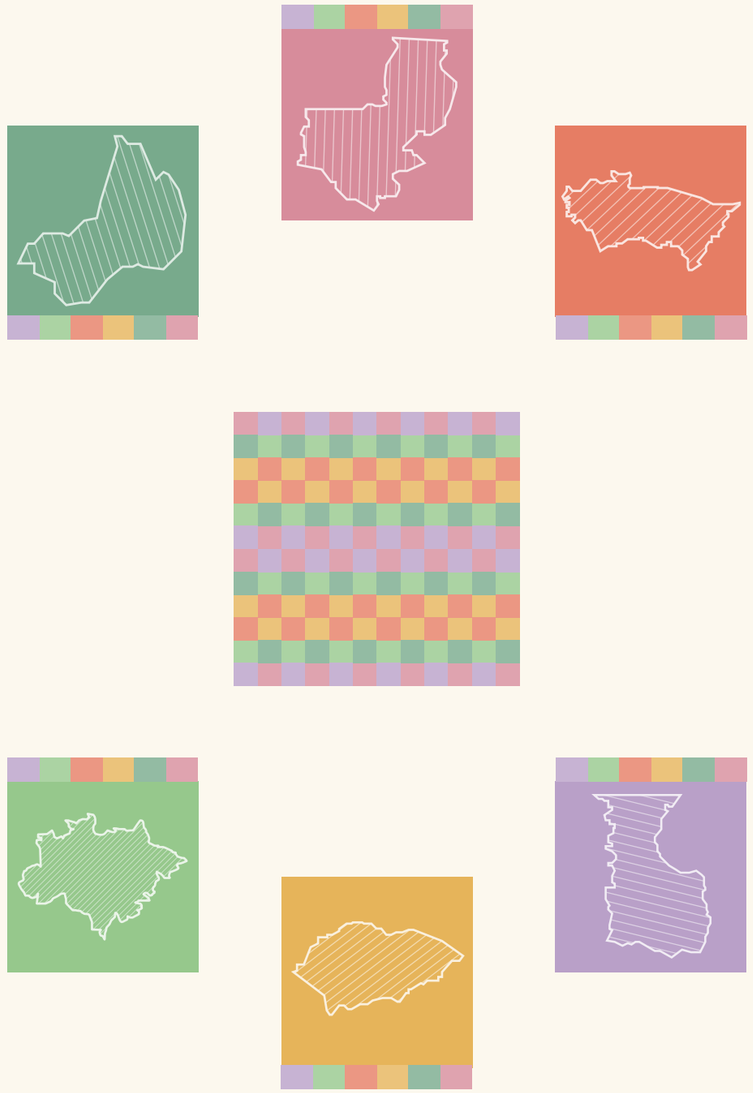
Effectiveness Evaluation of the Amazon Fund's Municipal Projects

Buriti Springs Project
Amazon's Water Springs Project – Phase II
Preserving Porto dos Gaúchos Project
Environmental Qualification and Management Program – PQGA
Recovering Marcelândia Project
New Paths in Cotriguaçu Project

June 2023



EVALUATION REPORT OF THE AMAZON FUND'S MUNICIPAL PROJECTS

This thematic evaluation was performed by independent consultants under the coordination of technical cooperation between the BNDES and *Cooperação Brasil–Alemanha para o Desenvolvimento Sustentável* (German Cooperation for Sustainable Development) through *Deutsche Gesellschaft für Internationale Zusammenarbeit* (GIZ) GmbH. The opinions expressed herein are solely those of the authors and do not necessarily reflect the position of GIZ or BNDES. The recommendations presented are neither prescriptive nor mandatory.

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SUMMARY

LIST OF ACRONYMS

PPA	Permanent Preservation Area
ATER	Technical Assistance and Rural Extension
BNDES	Brazilian Development Bank
CAR	Rural Environmental Registry
FOPESMMA	Permanent Forum of the Municipal Secretaries of the Environment of the State of Pará
IBAM	Brazilian Institute of Municipal Administration
ICV	Instituto Centro de Vida
INPE	National Institute for Space Research
GIZ	German Agency for International Cooperation (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH)
OECD	Organization for Economic Co-operation and Development
NGO	Non-governmental organization
PMV	Green Municipalities Program
PPCDAm	Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm)
PQGA	Environmental Management Qualification Program
PRA	Environmental Recovery Program
PRAD	Degraded Areas Recovery Plan
PRODES	Project for Monitoring Deforestation in the Brazilian Amazon by Satellite
PAS	Payments for Environmental Services
REDD+	Reducing emissions from deforestation and forest degradation (+ conservation of forest carbon stocks, sustainable management of forests and increase of forest carbon stocks)
SEMA/MT	State Environment Secretariat of Mato Grosso
SENAR	National Rural Learning Service
IL	Indigenous Land
CU	Conservation Unit
UNFCCC	United Nations Framework Convention on Climate Change
ZEE	Ecological-Economic Zoning

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EXECUTIVE SUMMARY

The Amazon Fund's objective is to support strategies that can reduce deforestation and promote sustainable development in the Brazilian Amazon. Based on this, it is only market that the Fund supports projects in municipalities that are located in agricultural frontier areas and with high deforestation rates.

In relation to the six projects subject to this evaluation, five have a common reality: they are located in the northern region of the state of Mato Grosso, an area known as "Areas under intense pressure for deforestation", and are executed by the municipal public administration, in the municipalities of Alta Floresta (*Amazon's Water Springs – Phase II*), Carlinda (Buriti Springs), Cotriguaçu (*New Paths in Cotriguaçu*), Marcelândia (*Recovering Marcelândia*) and Porto dos Gaúchos (*Preserving Porto dos Gaúchos*). The sixth project is the *Environmental Management Qualification Program – PQGA*, which takes care of the regional intervention and is not carried out by municipal public administration, but by a non-governmental organization – the Brazilian Institute of Municipal Administration (IBAM). This set of projects had a financial contribution of R$30,115,604.03 of the support offered by the Amazon Fund and the period of its implementation was between 2011 and 2020.

Having projects supported with a focus on a municipal approach is fully related to the Amazon Fund's objectives and its components. Likewise, it is in line with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm), a program that gives municipal governments the strategic importance of participating in combating deforestation and strengthening that municipalities can implement interventions focused on a model of sustainable regional development.

For the effective implementation of the PPCDAm, its actions must involve both the federal government and subnational governments. And, within this chain of political and institutional actors, municipalities are the part that presents the greatest weakness.

All municipalities that implemented projects, at the time they were covered by the Amazon Fund's support, were included in the list of priority municipalities for the monitoring and control of deforestation by the Ministry of the Environment. The cumulative number of deforestation alerts in the area covered by the Brazilian Amazon, in 2022, was 10,167 km2 according to data presented by the National Institute for Space Research (INPE). The state of Mato Grosso, the region covered by the set of projects evaluated, currently accounts for the third place among the federation units with the highest deforestation rates (2,017 km^2), behind only the states of Pará (3,504 km^2) and Amazonas (2,570 km^2).

Specifically in relation to the five projects executed by the municipal public administration supported by the Amazon Fund, the data show that these interventions were not sufficient to effectively prevent the deforestation of the territory on which they focused, but it is identified that there was a stabilization of forest suppression during the period of execution of the projects. During this period, it was possible to remove two of the municipalities (Alta Floresta and Porto dos Gaúchos) from the list of priorities for deforestation prevention, monitoring and control actions, which became part of the list of municipalities with monitored and controlled deforestation.

The greatest challenge was in the post-project period, as it was the moment in which the decontamination was intensified. However, this reality does not indicate a lack of sustainability in the projects' actions, but is a reflection of a more general

trend of increased deforestation throughout the Amazon. The effectiveness of achieving this objective in the analyzed period was hampered by the cooling of other components of the policy, notably command and control actions, from the 2017/2018 biennium. Deforestation in the municipalities studied followed a general trend of increase detected in both the state of Mato Grosso and the Brazilian Amazon.

Despite this, in a contrary direction, the actions to recover degraded Permanent Preservation Areas (PPAs) were successful and left lasting effects, since a gradual densification of vegetation was identified in the areas that underwent intervention, even after the end of the projects. Municipal governments structured nurseries and built technical and administrative capacity that allowed them to continue or resume the work of producing seedlings and supporting the recovery of degraded areas. The challenge for the recovery of such areas is to gain the necessary scale to achieve the goals that Brazil assumed at the Climate Conference – COP 21, in 2015. Given the dissemination of municipal governments, these are undoubtedly fundamental actors for such objectives to be achieved.

The promotion of sustainable activities and the use of biodiversity have also achieved promising results. An activity that deserves to be highlighted is bovine livestock, which already has a very well established chain in the region of incidence of the projects. Despite the importance of livestock, the technological level of producers varies greatly and the activity remains one of the main vectors of deforestation. The diffusion of new technologies has a relatively low cost and is facilitated by collaboration between the municipal environment and agriculture secretariats. Other activities are more challenging, especially when they involve structuring chains that are still incipient. This can happen with both agricultural and extractive outputs. Despite this, in Alta Floresta, the government has achieved positive results with the introduction of fish farming, beekeeping and organic gardens.

The municipal environment secretariats were strengthened due to the investments made by the projects, which involved the acquisition of vehicles and equipment and the construction of their headquarters. Another aspect of this strengthening was the qualification of technicians and managers, which occurred directly, through specific training and partnerships with other state agencies that work with the environmental theme, and indirectly, through the actions of the Environmental Management Qualification Program (PQGA), implemented by IBAM. Within the scope of the PQGA, evaluations were carried out on various topics related to municipal environmental management, technical-legal advice was provided to municipal governments, in addition to the formation of socio-technical networks to discuss topics of interest to local environmental managers. The target audience of the PQGA was not formed exclusively by the municipalities supported by the Amazon Fund, but by the universe of 519 municipalities in the Brazilian Amazon. As a result, it reached a large number of beneficiaries, which contributed even to the training of future municipal environmental managers.

The following are the main results based on the criteria defined for this evaluation and based on the concepts defined by the Organization for Economic Cooperation and Development (OECD).

RELEVANCE

The projects supported by the Amazon Fund emerged after the inclusion of the municipalities where they are executed in the list of those that most deforested in the country. It was a phase of great challenges for these municipalities, characterized as a period in which several operations of the inspection and control bodies took place, with the need for adjustments of many activities (illegal logging, extensive cattle ranching and expansion of agricultural borders), which generated serious challenges for local economies.

To overcome these challenges, projects focused on supporting municipal governments sought to strengthen municipal administrations and administrations in order to create local state capacities for the implementation of local public policies focused on environmental conservation and sustainable development. Furthermore, the reduction of deforestation, the environmental regularization of private properties and the creation of opportunities for sustainable economic use of natural resources stand out.

The projects were also relevant, as they were important tools for mobilizing farmers and land owners to join the Rural Environmental Registry (CAR). Likewise, based on the interventions, it was possible to include the environmental theme in the municipal agendas, which provided, on the part of these municipalities, access to the decentralization program of the government of Mato Grosso for environmental licensing.

It is important to note that the motivation that led to the Amazon Fund's support to these projects remains valid today, since, especially after the completion of the projects, there was an increase in the deforestation rate in the set of municipalities.

EFFICACY

Almost all of the projects supported managed to be effective and achieve the planned goals, especially in relation to the recovery of degraded areas and environmental regularization. Only one of the projects, which had goals related to the recovery of areas and implementation of pasture management demonstration units, failed to achieve these goals.

However, although these results were not achieved in this project, it was possible to bring to the municipality experiences of new and more effective models of occupation of the property.

Regarding the training for managers and technicians of subnational governments, all the planned goals were exceeded. Meetings were held with municipal managers and technical-legal guidelines were given to these managers, in addition to the strengthening of state/municipality relations for the decentralization of environmental management.

A positive strategy, which managers identified for a better implementation of project actions, was the implementation of partnerships with local and/or regional non-governmental organizations that had greater experience with certain themes. In some cases, these partnerships were fundamental to achieving the goals.

In some projects, there was a need for adjustments to increase their efficacy. As such, some strategies used and successful were the renegotiation of deadlines and adjustments of actions with the Amazon Fund and the discussion with the governance bodies of local environmental policies to adjust the projects.

EFFICIENCY

The largest contribution of resources in the set of supported projects were for the following components: Sustainable Production (1) and its direct effects "deforested and degraded areas recovered and used for economic and ecological conservation purposes" and "economic activities of sustainable use of the forest and biodiversity identified and developed"; and Monitoring and Control (2) and its direct effect "structured and modernized environmental monitoring, control and accountability institutions". Although a cost-benefit analysis of these activities has not been prepared, it was possible to verify that the costs related to them were within market values.

The fact that the recovery of degraded areas is prioritized is due to the great environmental liabilities that the municipal-

ities presented at the time of the preparation of the projects and the pressure of public policies to advance in environmental regularization. The recovery of degraded areas is an activity that usually has a high cost and high demand for labor, in addition to taking time to return. Without the support of this set of projects, it would be unlikely that producers would have voluntarily engaged in these activities.

Regarding the effect "economic activities of sustainable use of the forest and biodiversity identified and developed", the main activity was focused on actions to implement pasture management demonstration units. Based on the interventions, in some municipalities with greater intensity than in others, it was possible to create a set of good conditions for the introduction of new sustainable productive activities.

Regarding the effect "structured and modernized environmental monitoring, control and accountability institutions", there was an important efficiency gain from the moment in which institutional capacity was made possible for municipal governments to formulate and implement public policies focused on environmental conservation, sustainable production and the environment. The same can be said about the realization of training and qualification in the set of municipalities of the area covered by the Brazilian Amazon. In a context of tremendous challenges for municipal environmental policies, this support is an important mechanism for these local actors to implement actions aimed at controlling deforestation.

IMPACT

One of the impacts identified from the supported projects was the removal of two municipalities (Alta Floresta and Porto dos Gaúchos) from the priority list of the Ministry of the Environment for actions to prevent, monitor and control deforestation. These municipalities became part of the list of those with monitored and controlled deforestation. Specifically, the municipality of Alta Floresta has become a Green Municipality and, today, it is a regional reference for municipal public policies focused on the environment.

Another impact generated from the interventions in the municipalities of Alta Floresta, Carlinda and Cotriguacu was the revitalization of a set of areas belonging to the reservoirs that supply urban areas. This revitalization stabilized the region's water supply.

Another important result was the decentralization of licensing with the State Environment Secretariat of Mato Grosso (SEMA/MT), a fact reported by the managers of the municipalities of Cotriguaçu and Porto dos Gaúchos. This greater participation of municipalities in the licensing processes is due to the experience with the implementation of projects supported by the Amazon Fund.

Specifically in relation to the IBAM project, one of the main impacts observed by the training sessions was the creation of two important regional institutional spaces for discussions and negotiation of municipal environmental policies: the Permanent Forum of Municipal Secretaries of the Environment of the State of Pará (FOPESMMA), composed of 133 municipalities; and the Forum of Municipal Secretaries of the Environment of Amapá.

In Cotriguaçu, a public Permanent Preservation Area (PPA), which was the object of the revitalization actions of one of the projects, was transformed into a Municipal Park, with a lake, leisure equipment and landscaping with native trees.

SUSTAINABILITY

All of the municipalities in the supported projects currently have structured municipal environmental secretariats with equipment to run them. These secretariats already have a technical team, most of whom are full time public servants, with the capacity to implement public environmental policies.

In most of these secretariats, seedling nurseries remain in full operation and continue to contribute, albeit on a smaller scale, to area revitalization strategies. Furthermore, the projects have now developed into environmental education and afforestation of urban areas.

In the municipality of Cotriguaçu, a Municipal Program for the Revitalization of Lakes and Springs was created, which was inspired by the project supported by the Amazon Fund.

It should be noted that the municipalities that registered in the technical-legal guidelines plan, created from the Environmental Management Qualification Program – PQGA, continue to access this service.

Of the five municipalities where projects have been supported, all have their own budget for environmental policy. In some municipalities, this value is significant, while in others, there is still a low budget allocation to meet these policies.

TRANSVERSAL ELEMENTS

Reducing Poverty and Improving Quality of Life

Most of the projects evaluated did not have as their main focus the reduction of poverty and improvement of quality of life. However, in the *Amazon's Water Springs project – Phase II*, it was possible not only to favor but also to contribute to the improvement of the lives of a group of family farmers. This group was included in activities focused on fish farming and organic olive growing. In addition, some beneficiaries were able to improve their household income as a result of the project. But there is still a challenge in relation to these activities, as there is a need to better structure the chains with a focus on the production and commercialization of products.

Gender Equity

In the evaluated projects, specific activities for gender equity were not planned. However, one finding identified in this evaluation is that there is a significant presence of women in all the teams of the municipal environmental secretariats of the municipalities, with three of the municipalities – Alta Floresta, Carlinda and Porto dos Gaúchos – having women as heads of the secretariats.

Regarding the New Paths in Cotriguaçu projects, and PGQA, at the time of their implementation, both had women as coordinators. In the Amazon's Water Springs project – Phase II, during the strategy of implementing chains of agroforestry products and biodiversity with added and expanded value, participation in the main activities by women was identified, including some with good experiences in the commercialization of outputs. These experiences were not attributes of the project, but are transversal elements that ended up including important participation by women in the activities of the interventions.

1. BACKGROUND

In 2004, as a way to curb the growing deforestation of the Amazon Forest, the Brazilian government launched Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm). The PPCDAm was organized into three areas: (1) land and land-use planning; (2) environmental monitoring and control; and (3) promotion of sustainable productive activities[1].

In line with these areas, particularly the second, the federal government published Decree No. 6.321 in 2007, which established the creation of a list of priority municipalities for actions to prevent, monitor and control deforestation in the Amazon. The selection of municipalities to integrate this list would be based on three criteria: (1) total area of deforested forest, (2) total area of deforested forest in the previous three years and (3) detection of an increase in the deforestation rate in at least three of the five years prior to the preparation of list[2].

To get off the list, municipalities should meet the following criteria: (1) have at least 80% of its territory (except public areas) with registered and monitored rural properties and (2) maintain the deforestation rate equal to or less than 40 km2 and the average of the years 2007 and 2008, equal to or less than 60% of the average of the period 2004-2006.

The impacts of these measures were immediately felt at the local scale. This was done objectively, due to the restrictions on economic activities and credit cuts. There was also a subjective impact related to the negative visibility given to municipalities, as owners who operated within the law feared the possibility of suffering market sanctions. Thus, the PPCDAm transformed municipal governments into de facto actors for the control of deforestation.

Since the 1988 Constitution, several normative instruments have already included measures to decentralize tasks for both states and municipalities in relation to the implementation of environmental policies. Within the logic of cooperative federalism, environmental public policies are included among the matters of current competence. This means that the Federal Government, states, Federal District and municipalities, that is, all federative entities have obligations in this regard in terms of public policies and legislation (ARAÚJO; VIANA, 2009).

The competitive scenario between central government and subnational governments also brought advances and challenges in the field of public policies. The result of the autonomous action of the municipalities created a context conducive to innovations. As the largest beneficiaries of fiscal decentralization, municipal governments began to promote policies in the most diverse areas, such as those focused on the environment (ABRUCIO; FRANZESE, 2013).

However, implementing these policies remains a major challenge for many subnational governments. There is a socioeconomic and institutional disparity between the various Brazilian municipalities, an inequality that constitutes the main institutional dilemma in the treatment of deeply unequal entities, which characterizes an "asymmetric federalism" (NEVES, 2012).

With regard to public environmental policies, asymmetry is even stronger, as most municipalities have a huge institutional vulnerability, linked to a l ow state capacity for the formulation and implementation of environmental public poli-

1 More information about the PPCDAm : **http://redd.mma.gov.br/pt/acompanhamento-e-a-analise-de-impacto-das-politicas-publicas/ppcdam**

2 See Decree No. 6.321 of December 21, 2007: **http://www.planalto.gov.br/ccivil_03_ato2007-2010/2007/decreto/d6321.htm**

cies. The challenges range from dealing with the environment at the municipal level, where the environment is sometimes dealt with in a specific agency, sometimes together with other issues (science and technology, infrastructure, tourism, agriculture, sustainability). This is mainly due to the endless debate about the type of structure that is most appropriate for incorporating environmental variables into public policy, namely the constitution of a specific entity or the transversalization of the theme in other governmental structures (ARAÚJO; VIANA, 2009).

Decentralization also brings with it the challenge of allocating human and technical resources and budgets to this area by municipal entities.

In this context, the Amazon Fund supports the implementation of municipal projects aimed at strengthening the environmental management of these subnational actors, obtaining the improvement of their state capacities to implement public policies for the conservation and protection of forests. The municipalities that had projects supported by the Amazon Fund and that are the object of this analysis were chosen because they are located in the "Areas under intense pressure for deforestation", a region that advances the agricultural frontier that concentrates most of the deforestation in the Amazon.

In addition, these communities were included in two other important federal environmental and development policies of the 2000s. The first was the Sustainable BR-163 Program, which covered the entire area of influence of the BR-163 highway (Cuiabá-Santarém), a region that became particularly vulnerable to deforestation, public land grabbing, and invasion of Conservation Units (CUs) and Indigenous Lands (ILs) after the federal government announced its intention to pave the highway in the early 2000s. The main component of the plan was the creation of CUs, which focused on the state of Pará. Nevertheless, northern Mato Grosso has gained the attention of deforestation control policies

The second policy was the *Territories of Citizenship* program, a sustainable regional development strategy targeting the most vulnerable rural regions and which aimed to promote economic development and universalize basic citizenship programs. This would be done by integrating the actions of various federal policies among themselves and with state and local governments. One of the areas defined by the program was the Portal da Amazônia, where three of the communities studied here are located: Alta Floresta, Carlinda and Marcelândia.

2. INTRODUCTION

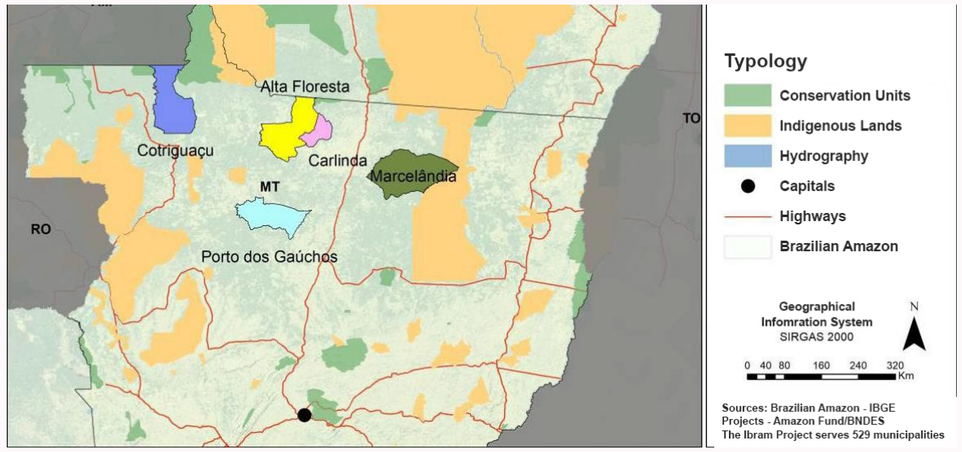
The main objective of this thematic evaluation with a focus on municipal projects is to observe their effectiveness, through the analysis of the results and impacts achieved by the six projects supported under the Amazon Fund/BNDES. This is done considering the relevance, efficiency, efficacy, impact/effectiveness and sustainability of the changes generated.

When drawing conclusions about effectiveness, evaluations focus on the most important results in the context of the project. This type of evaluation weighs the importance of the objectives and results achieved/not achieved, including unintended consequences, when drawing conclusions about effectiveness (OECD, 2021). Impact, or effectiveness, refers to the medium- and long-term effects on beneficiaries and society that are directly or indirectly attributable to the program or projects (JANNUZZI, 2021).

The criteria defined in this evaluation are based on the concepts defined by the Organization for Economic Cooperation and Development (OECD). The criteria of the safeguards of Reduction of Emissions from Deforestation and Forest Degradation (+ conservation of forest carbon stocks, sustainable forest management and increase of forest carbon stocks) (REDD+) will also be considered.

This evaluation is aimed at six projects. One of them is a regional program, run by a non-governmental organization – the Brazilian Institute of Municipal Administration (IBAM) – aimed at strengthening local administration throughout the Amazon. The other five are municipal in scope and were executed by municipalities in the northern region of Mato Grosso (Alta Floresta, Carlinda, Cotriguaçu, Marcelândia and Porto dos Gaúchos – Figure 1). Below is a summary of each project.

FIGURE 1: Municipalities of incidence of projects supported by the Amazon Fund that are part of this evaluation



Sources: Brazilian Amazon - IBGE Projects - Amazon Fund/BNDES The Ibram Project serves 529 municipalities

The *Buriti Springs* project, executed between 2011 and 2020, received funding of R$1,875,500.94. This intervention occurred because the municipality of Carlinda entered the priority list of the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm) in 2008. Under the strong influence of the previous experience of Alta Floresta, the municipality of Carlinda submitted and approved a proposal with the objective of strengthening municipal environmental management through the physical structuring of the Municipal Environment and Tourism Secretariat and to recover 1,722 hectares of permanent preservation areas (PPAs) in five sub-basins responsible for the water supply of the municipal headquarters.

The *Amazon's Water Springs – Phase II* project was implemented in the municipality of Alta Floresta. As the name implies, this is a second stage of a project, also financed by the Amazon Fund, carried out between 2011 and 2 013, when the work to strengthen municipal environmental management was developed. In this second stage of the project, the Municipal

Environment and Sustainable Development Secretariat of Alta Floresta, already well equipped and with a trained team, prioritized the recovery of degraded areas, particularly the PPAs and the surroundings of springs and watercourses; the development of sustainable productive activities; and the environmental regularization of ruinous family farming properties in the municipality. For this, the project received R$ 7,146,563.54 from the Amazon Fund, a budget that will be executed between 2013 and 2018.

Unlike Alta Floresta, where it was no longer necessary to invest directly in strengthening municipal environmental management, the *Preserving Porto dos Gaúchos* project focused exclusively on this. Porto dos Gaúchos created its Municipal Environment and Tourism Secretariat in 2009, in response to the inclusion of the municipality in the PPCDAm priority list. Until receiving the Amazon Fund's resources, in 2011, the Secretariat was incipient, and the R$120,655.00 of support received between 2011 and 2013 was used for the physical structuring of the secretariat.

IBAM executed the *Environmental Management Qualification Program*. This program aimed to support municipal environmental management by providing training and technical assistance to municipal managers and technicians, disseminating and exchanging information through a network, and stimulating innovation and articulation with other spheres of government and society. Its scope was the territory of the Brazilian Amazon, serving 559 municipalities. As such, IBAM received R$18,853,482.32, a budget executed between 2013 and 2021.

The Recovering Marcelândia project, executed between 2011 and 2017, received financing of R$551,556.98. Also resulting from the inclusion of the municipality of Marcelândia in the PPCDAm list, it is similar to the Buriti Springs project, with a component of strengthening the Municipal Secretariat of Environment of Marcelândia and another of recovery of degraded areas around 50 springs of the sub-basin of the Manissauá-Missu River, located near the urban area of the municipality.

The *New Paths in Cotriguaçu Project* was carried out between 2014 and 2020. Although the municipality was included in the PPCDAm list in 2008, the project was only presented to the Amazon Fund in 2011. In addition to the construction and physical structure of the headquarters of the Municipal Environment Secretariat of Cotriguaçu, the project provided for the recovery of PPAs in rural properties of up to four fiscal modules and around water bodies in public areas and the implementation of demonstration units for recovery and pasture management. To carry out these activities, it received financing of R$1,567,845.25.

All projects supported by the Amazon Fund follow an individualized Logical Framework that defines the results to be achieved (outputs and services to be delivered), the direct effects of the intervention (specific objectives) and the indirect effects (general objectives or impacts). This is the project's intervention logic, also called a theory of change because it is a model of thinking that explains how the project is expected to bring about a desired change.

This evaluation has the following specific objectives:

- Assist the Amazon Fund in reporting to its donors on the type of project supported and its effects;

- Enable the institutional learning of the Fund itself, contributing to improve the quality of projects and prioritization of investments, thus subsidizing decision-making;

- Verify compliance by projects supported by the Amazon Fund with the Cancun Safeguards agreed under the United Nations Framework Convention on Climate Change (UNFCCC) for REDD+ actions;

- Analyze the strengths and weaknesses of the project intervention;

- Assess the extent to which the project is relevant, efficient, effective, sustainable and impactful;

- Evaluate the effectiveness of support from the Amazon Fund in relation to municipal projects; and

- Identify challenges and lessons learned, which can even serve for national and international dissemination.

In the next section, we describe the evaluation methodology used and, subsequently, we present the results of the evaluation. This is done based on the general Amazon Fund's objectives, the indirect impacts of the projects, through the direct impacts, and reaching the outputs and services of each project. After the thematic effectiveness evaluation of the six projects (aggregate evaluation), the individual reports of each analyzed project are presented in separate volumes.

3. METHODOLOGY APPLIED

The foundations, stages and objectives of this evaluation, as well as the aspects of the methodological approach, follow guidelines and criteria specified in the document "Effectiveness Evaluation of Projects Supported by the Amazon Fund – Conceptual Framework" and its respective addendum, prepared by the Cooperation between the German Cooperation Agency (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) and the Amazon Fund/BNDES in 2016 and 2020, respectively.

The application of the public policy evaluation criteria defined by the Organization for Economic Cooperation and Development (OECD) follows some basic principles that are defined in its manuals, such as a minimum set of questions, selection criteria and evaluation objectives (OECD, 2021). Thus, we seek to prevent the criteria from being applied in a mechanistic way and discouraging critical thinking, creativity and ownership of the participants, principles that must accompany the criteria whenever used. The criteria must be applied carefully to support a useful and high-quality evaluation and depend on the purpose of the evaluation. These evaluation criteria are presented in Chart 1.

CHART 1: OECD evaluation criteria

Evaluation Criteria	Conceptual Description	Question Type
Relevance	Evaluates the extent to which policy objectives respond to the needs of beneficiaries, as well as alignment with other national and international policies and priorities	Did the projects contribute jointly and overall to the achievement of the Amazon Fund's objectives?
Efficacy	Evaluates the extent to which a policy has achieved its objectives and results, considering the relative importance of the objectives. Most commonly used criterion as an overall measure of success of an intervention	Were the overall direct effects been achieved?
Efficiency	Criteria that measures how much resources are transformed into results in the most economical and timely way	Is the cost-effectiveness of project activities consistent with each other?
Impact	Long-term effects. Measures the global consequences of public policy on local indicators of social, economic and environmental development and others	What were the main overall effects of the projects? Were there overall impacts? Did they demonstrate scalability in the territory?
Sustainability	Evaluates how much the benefits of a policy continue or will continue	Are the overall effects achieved by projects lasting? Was sustainability achieved?

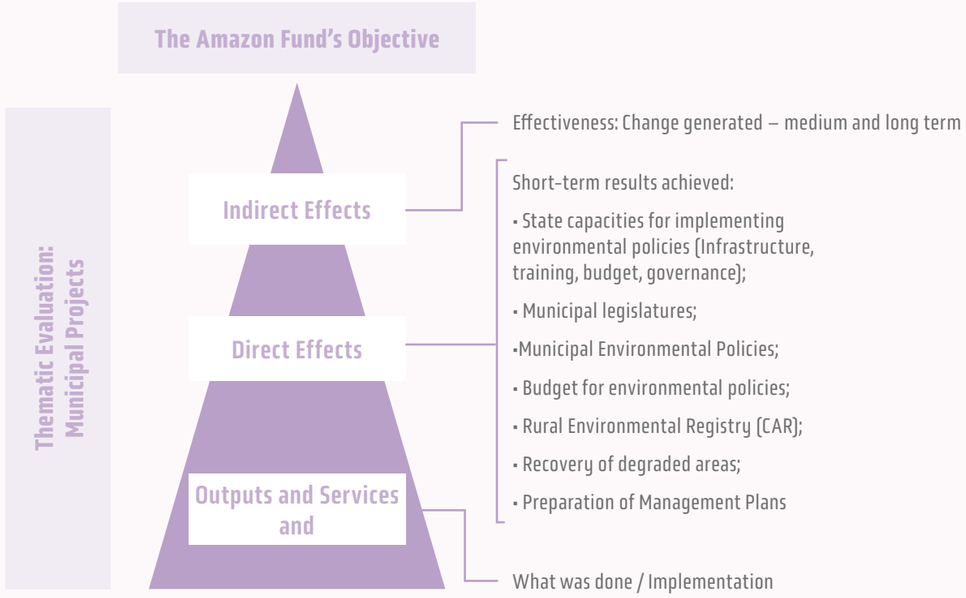
Source: Adaptation made by the consultants based on the model of the OECD criteria (2021) and the Terms of Reference (2022).

In addition to this set of criteria, projects are evaluated according to the Safeguards for Reducing Emissions from Deforestation and Forest Degradation (REDD+).

As a methodological reference, the model described in the chain of results of the "Addendum to the Conceptual Framework" was used, from which a design was elaborated for this effectiveness evaluation.

(Figure 2)

FIGURE 2: Evaluation Methodology



Source: Adaptation carried out by the consultants of the model described in the Conceptual Framework.

In addition to the indirect effects (effectiveness/impact) and direct effects (results), it was also evaluated in what sense the funded projects contributed to other transversal themes, presented in Figure 3.

FIGURE 3: Transversal themes that were considered in the evaluation

Partnerships with federal and subnational environmental inspection agencies	Partnering with non-governmental organizations that work with environmental issue	Articulation of environmental public policies with other policies, especially those related to agriculture in municipalities
Public Procurement of Agroforestry Products	Environmental situation in rural communities	Environmental situation of existing ILs in the territories
REDD +	Poverty reduction and improved quality of life	Gender equity

Source: Consultants' own elaboration.

In this evaluation, the following points were analyzed in light of the approach presented:

1) How deforestation behaved in the areas covered by the projects. Three points in time were taken: the baseline (years before the start of each project), the project implementation period, and the post-implementation period;

2) The creation and strengthening of municipal environmental management capacities, which includes the physical structuring, hiring, retention and training of personnel, preparation of municipal environmental management plans, preparation of legislation and articulation with other spheres of government and civil society;

3) The recovery of degraded areas;

4) The implementation of income generation activities with sustainable use of natural resources.

3.1 Data collection

A preliminary data survey was carried out through documentary analysis and secondary data collection, with details for the documents provided by BNDES. Such documents include preliminary consultation reports, technical notes, performance reports (RED), project implementation monitoring reports, final evaluation reports, and other documents that constitute the reference and levelling bases for understanding project implementation (evaluation memorandum). Furthermore, the Brazilian Institute of Municipal Administration (IBAM) shared with the evaluation team its database and information with records of all activities developed throughout the project.

In addition to these documents, the team conducted a survey of the academic literature and gray literature produced by non-governmental organizations (NGOs) and municipal, state and federal government agencies.

3.1.1 Primary data

Primary data collection occurred in two stages. Initially, interviews and meetings were held, through teleconference, with the technical team of the Amazon Fund and IBAM. In a second stage, the team traveled to the north of Mato Grosso, where they carried out field visits and interviews with technicians and managers from the state government – Environment Secretariat of Mato Grosso (SEMA/MT) – and local governments, as well as rural producers from the five municipalities and partners that were involved in the implementation of the projects.

3.2 Deforestation Analysis

The annual deforestation rate in the area of operation of the projects was calculated from data from the Project for Monitoring Deforestation in the Brazilian Amazon by Satellite (PRODES)[3] of the National Institute for Space Research (INPE). The methodology was applied in order to have a deforestation law in the periods prior, during and after the projects. To calculate the baseline of the deforestation of the region where the projects operate, deforestation was surveyed in the three-year period prior to the start of activities (2008 to 2010).

3.3. Recovery of Degraded Areas

Despite the relatively short recovery period of the degraded areas since the end of the projects, an estimate was made of the trends in the intervention process in the municipalities of

3 Data available at: **http://terrabrasilis.dpi.inpe.br/downloads/**

Carlinda, Marcelândia and Alta Floresta, through the analysis of satellite images at three points in time: before the beginning of the interventions, at the end of the projects and in 2022. For Carlinda, this analysis was based on a sample of 89 of the 534 permanent preservation areas (PPAs) that underwent intervention. The Cotriguaçu data were not made available in a compatible format for the geographic analysis software.

For this analysis, Landsat-7[4], for the year 2013, and Planet[5], images for the years 2019 and 2022, in a false color composition that, in addition to the bands of the spectral region of the visible, uses the near infrared band, very important for monitoring areas with vegetation.

Using the boundaries of the PPAs provided by the municipal environmental secretariats, ArcGIS Pro software was used to automatically classify the years to be analyzed and then to manually correct the classes.

The land use classification was divided into three main classes: exposed soil and other uses, moderate regeneration, and dense vegetation.

In the monitoring, vectorization of PPAs and classification of land use, they were used to provide greater detail of the classes, remote sensing software, Geographic Information Systems (GIS), high-resolution satellite images, and Google Earth Pro time series. Once the classifications were completed, the areas per polygon and the total area in hectares for each class were calculated and the necessary analyses were performed.

3.4. Limitations

Since this is a thematic evaluation based on this systematization of indirect effects, direct effects, outputs and services, it is possible to see that there is an asymmetry in terms of the values of the projects supported, the types of municipalities and institutions (public and non-governmental) responsible for implementation, the time of execution of the projects, as well as the values of the projects. This makes comparisons and contrasts challenging and makes it necessary to take great care to appreciate the result of the municipal approach as a whole, without it being sent by the challenges or very expressive results found occasionally in some of the individual projects.

Furthermore, another challenge identified is that, in the objectives diagram of the supported projects, there was no harmony in relation to the concepts and definitions of the effects of the Amazon Fund's Logical Framework.

4 The ETM+ sensor was launched on board the Landsat 4 and 5 satellites. It operated with 7 bands in the visible, near-infrared, medium and thermal regions, 8-bit radiometric resolution, with 30 meters of spatial resolution of the color images and the panchromatic band, a black and white image with 15 meters of spatial resolution.

5 Planet images are obtained by the constellation of Dove satellites that have the same type of sensor, are acquired by more than 130 satellites, with 4 spectral bands and 12-bit radiometric resolution, are orthorectified and have spatial resolution of 3 meters, which allows current images to be obtained of large areas with a high standard of quality and planimetric precision. They are acquired in the visible bands: blue, green and red, and also in the near infrared (NIR), favoring environmental monitoring and land use and land cover mapping.

4. RESULTS

The Amazon Fund's objective is to support actions to prevent, monitor and combat deforestation and to promote the conservation and sustainable use of the Brazilian Amazon. Furthermore, the Amazon Fund promotes the implementation of deforestation control and monitoring systems. On this basis, this evaluation starts with an analysis of the achievement of the general objective of reducing deforestation, as presented in item 4.1.

The projects that are the subject of this evaluation relate to two of the four components of the Amazon Fund, namely Sustainable Production (1): Activities that keep the forest standing are economically attractive; and Monitoring and Monitoring (2): Government actions ensure the adequacy of human activities to environmental legislation.

In relation to direct effects, the following are observed: cleared and degraded areas recovered and used for economic and ecological conservation purposes, economic activities for the sustainable use of the forest and identified and developed biodiversity, expanded managerial and technical capacities for the implementation of economic activities for the sustainable use of the forest and biodiversity, agroforestry and biodiversity product chains with expanded added value, structured and modernized environmental monitoring, control and response institutions and expanded access of rural producers to the environmental regularization of their properties.

Figure 4 shows a systematization in which we sought to group outputs, services, activities and their results (direct effects) and frame them in the indirect effects that cover components 1 and 2 of the Amazon Fund.

Figure 4: Systematization of the verified actions of the projects evaluated according to the Amazon Fund's priorities.

THE AMAZON FUND'S OBJECTIVE	REDUCTION OF DEFORESTATION WITH SUSTAINABLE DEVELOPMENT IN THE BRAZILIAN AMAZON	
INDIRECT EFFECT	**Sustainable Production Component (1)** Activities that keep the forest standing are economically attractive	**Monitoring and Control Component (2)** Government actions ensure the adequacy of human activities to environmental
DIRECT EFFECT	• Deforested and degraded areas recovered and used for economic and ecological conservation purposes • Economic activities of sustainable use of the forest and biodiversity identified and developed • Expanded managerial and technical capacities for the implementation of economic activities for the sustainable use of forests and biodiversity • Agroforestry and biodiversity product chain with increased added value	• Structured and modernized environmental monitoring, control and accountability institutions • Expanded access for rural producers to environmental regularization of their properties
OUTPUTS AND SERVICES	Recovery of 5039 ha of degraded areas Expansion of seedling production capacity of the municipal nursery Recovery of 600 ha of areas of degraded permanent preservation (PPA) Recovery of degraded Implementation of pasture management demonstration units; agroforestry systems Expansion of the pasture management area Implementation of the Guardians of Water Program Payment for environmental services Training of rural producers in forest restoration techniques Execution of a Communication Plan for the adhesion of rural landowners to project activities Support for sustainable production chains: fish farming, beekeeping, agroecological integration and sustainable production (PAIS), horticulture and livestock with good agricultural practices	Improvement of Environmental Monitoring Systems Construction of a headquarters and physical and operational structuring of four Municipal Environment and Tourism Secretariats Technical training of municipal public servants: • Geotechnology tools for improvement and control, inspection and prevention of deforestation; Technical training of municipal public servants and representatives of civil society by distance learning; • Conducting in-person awareness-raising for members of the Municipal Legislative Chambers on the importance of the issues and virtual training in environmental management matters • Conducting awards for municipalities highlighted by the adoption of actions and projects to promote the preservation of natural resources and sustainable local development; • Performing activities with subnational governments of the Amazon Biome to promote strategies for decentralizing environmental management • Technical and legal guidance to municipalities to exchange experiences, formulate consultations and experts and provide studies and knowledge on environmental management. Environmental and land regularization of rural properties

Source: Consultants' own elaboration from the project objectives diagram

4.1 The Amazon Fund's General Objective – Decrease in Deforestation

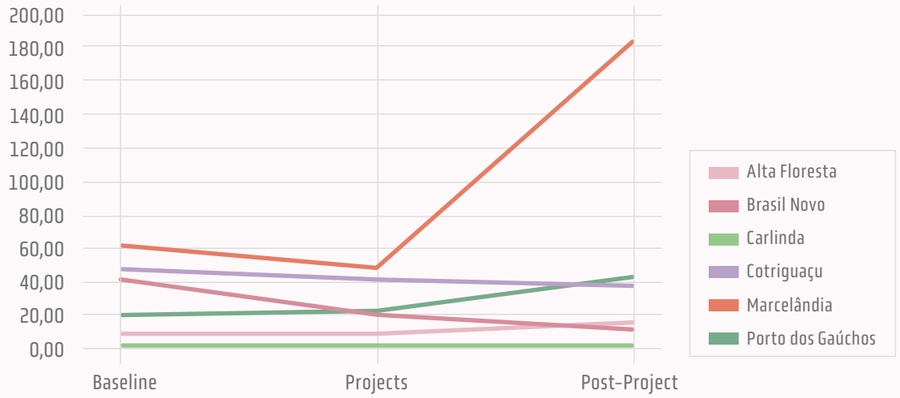
With the PRODES data, the evolution of deforestation was verified in the five municipalities that had projects supported by the Amazon Fund. The deforestation data for each project are presented in Table 1 and represented in Figure 5, for comparison purposes.

Table 1: Deforestation data (in km2/year) for the municipalities of the projects analyzed.

Municipality	Area (Km²)	Baseline (2008-2010)	During Projects (2011-2020)	Post-Project (2021-2022)	Total
Alta Floresta	8.955,42	8,36	9,43	15,58	10,75
Carlinda	2.421,79	1,48	2,28	1,25	2,13
Cotriguaçu	9.470,01	47,34	40,95	36,63	44,63
Marcelândia	12.285,49	62,01	48,31	181,83	73,77
Porto dos Gaúchos	6.846,67	20,05	22,14	43,17	26,28
Total	**41.987,70**	**144,65**	**125,55**	**279,22**	**160,57**

Source: Consultants' own elaboration based on data extracted from Prodes (2022).

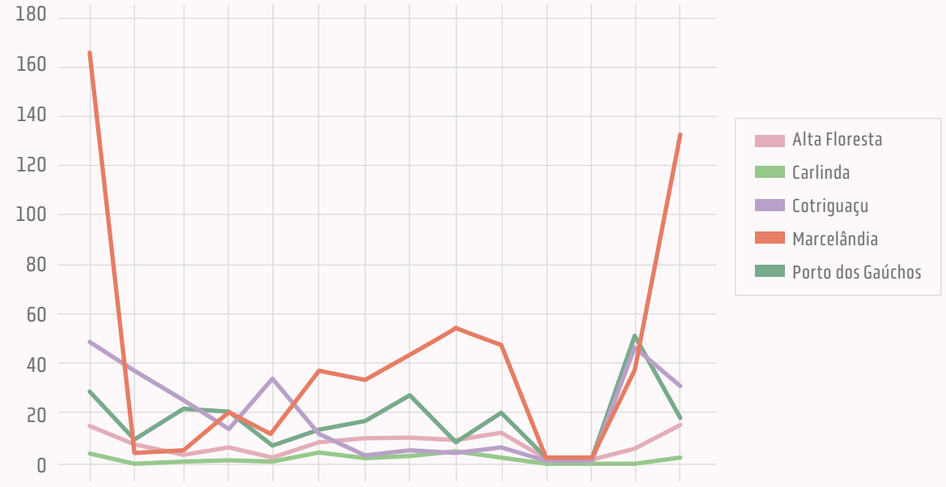
Figure 5: Annual deforestation in the municipalities of the projects analyzed



Project Source: Consultants' own elaboration based on data extracted from Prodes (2022).

In Figure 6, we see the continuous historical series between 2008 and 2022. It shows the acceleration of annual deforestation in some municipalities from 2018, especially Marcelândia, followed by Alta Floresta and Porto dos Gaúchos.

Figure 6: Annual deforestation in the municipalities of the projects analyzed



Source: Consultants' own elaboration based on data extracted from Prodes (2022).

Based on the deforestation evolution graph, it is possible to notice some points, such as a sudden increase in the annual deforestation rate, which almost doubled, in Alta Floresta from 2019. The value calculated for the post-project period (15.58 km2/year), however, is quite low compared to the other municipalities analyzed here, with the exception of Carlinda, where deforestation was practically suppressed. The value is also not very high when considering the territorial extension of Alta Floresta; in this case, the annual rate in the post-project period is 0.17% per year in contrast to a rate of 0.021% per year for Carlinda.

Porto do Gaúchos and Cotriguaçu showed a marked pace of deforestation after the end of the projects, 43.17

km²/year and 36.63 km²/year, respectively, which corresponds to annual percentages of 0.63 and 0.38. In Marcelândia, an annual forest loss of 181.43 km² was observed in 2021 and 2022, which corresponds to an annual deforestation of 1.48% of its territory.

An aggravating factor of deforestation in the region, which can be seen in Marcelândia, is the advance of the soybean frontier. The activity brings great profitability, which stimulates the acquisition of land already converted to agriculture and especially to livestock, in addition to areas of native forest. Interviewees in all municipalities reported that there is an intense movement to purchase and lease land, which has led to both increased deforestation and land concentration.

In Marcelândia, some interviewees stated that soybean cultivation may be even more harmful than livestock farming, which is traditionally considered the main reason for deforestation in the Amazon. This is because the *Marcelândia Recovery* project and other rural extension actions had demonstrated to rural producers the benefits of recovering their degraded Permanent Preservation Areas (PPAs) from the edge of watercourses, which increased the availability and quality of water for the watering of cattle. Soybean growers who are not dependent on this water are pushing planting even further into the PPAs under favorable topographic conditions. Another factor that deserves further study is the possible "leakage" of deforestation that this advance of the frontier causes. In the absence of other sources of income in the municipality, it is possible that rural producers who sell or sell their land seek out cheaper land in other municipalities, where they will continue to implement pastures.

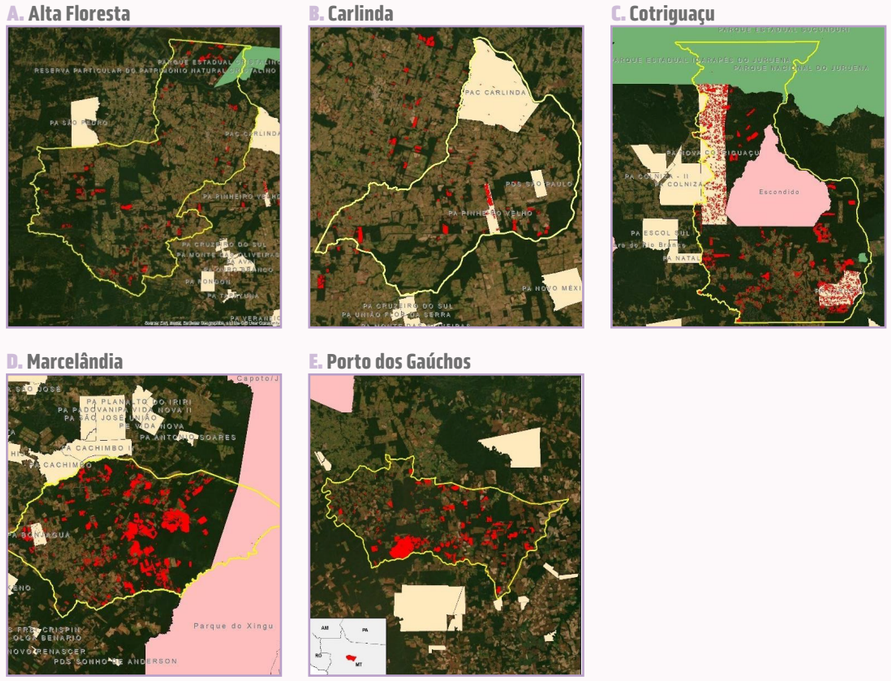
In contrast to this exemplified situation, there is the situation of Carlinda, the municipality with the lowest deforestation rates, which has an agrarian structure sprayed on small properties, which makes it difficult to gain the scale necessary for the profitable cultivation of soybeans.

Furthermore, the topography of part of the municipal territory is unfavorable to mechanization. Another point to consider is that the municipality already had 70.1% of its territory deforested before the beginning of the *Buriti Springs* project, while Marcelândia had only 26.29% when the municipality project began.

The municipality of Cotriguaçu stands out because, in addition to its increasing deforestation rate, 77.22% of its territory was already deforested when it was included in the list of the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm).

Figure 7 shows the maps of each municipality. It is possible to verify the accumulated deforestation (in red) in each territory, as well as the conservation units, indigenous lands (ILs) and agricultural settlements.

Figure 7: Maps of the municipalities of the projects analyzed



Source: Consultants' elaboration (2022)

With regard to what has been presented, we can highlight a few points:

- In some municipalities, such as Cotriguaçu, it is possible to identify that the settlements had a significant contribution to deforestation. These areas were not the object of the New Paths in Cotriguaçu Project;

- The municipality of Carlinda, in Mato Grosso, had the least deforestation in recent years. The municipality does not have protected areas and the productive area is approximately 8% of the territory, with practically one Rural Environmental Registry (CAR) area very similar to the total area of the municipality. This data is interesting because it shows that deforestation activity is being controlled even though there are no public protected areas;

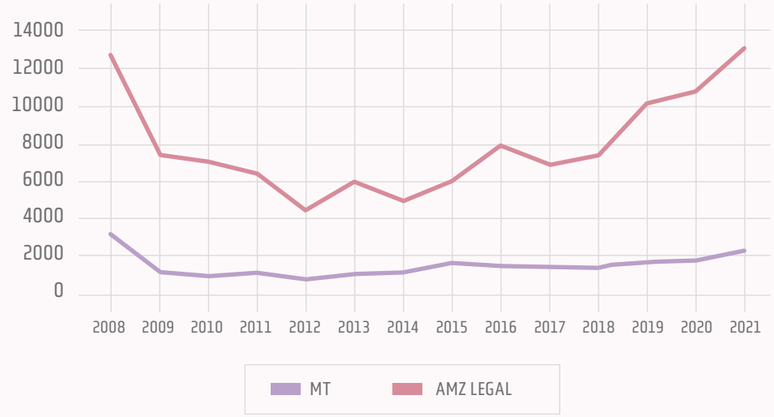
- The municipality that had the most deforested area was Marcelândia. Despite having a proportional planted area similar to Carlinda, accumulated deforestation was very large, reaching more than 180 km2 in 2021 and 2022; and

- The municipality of Porto dos Gaúchos does not have protected areas, being the one with the highest agricultural production (especially soybean) among the five evaluated, and the deforested area almost doubled after the end of the project.

The data show that the municipal projects funded by the Amazon Fund did not effectively prevent the deforestation of the territory on which they were focused. Although there was a stabilization of forest suppression during the period of execution of the projects, deforestation increased in the post-projects period. However, this does not indicate a failure of the projects, but rather reflects a more general trend of increased deforestation throughout the Amazon as a result of a growing slowdown in inspection activities starting in 2017/2018. From this period onwards, and more strongly from as of 2019, the measures to weaken environmental inspection in the region were very evident.

Figure 8 shows the variation in deforestation in Mato Grosso and the Brazilian Amazon between 2018 and 2021.

Figure 8: Annual deforestation in Mato Grosso and the Brazilian Amazon, between 2008 and 2021



Source: Consultants' own elaboration based on data extracted from Prodes (2022).

4.2 Sustainable Production Component (1) – Activities that keep the forest standing are economically attractive

The valuation of business models for maintaining standing forests allows not only the reduction of deforestation, but also the construction of a set of elements to enable the bases of the transition to a productive and sustainable economic model capable of generating income and reducing inequalities from the union between science, nature and traditional knowledge (GRAMKOW, 2020).

This transition is not simple, however. Nobre and Nobre (2019) identify three main challenges for it to occur: (1) conceptual failures, which prevent or hinder the visualization of viable alternative development paths; (2) knowledge failures, which translate not only into insufficient resources for research and development, but also into the difficulty of conducting innovative research; (3) implementation failures, which are difficulties in the management and governance of public policies. The Amazon Fund addresses these challenges in several ways.

The activities of the community projects have contributed, albeit modestly, to the goal of implementing economic activities that maintain the forest. Action at the municipal level was found to be effective in reducing design and implementation failures of alternative development models. Overcoming conceptual failures, translated as difficulties in understanding and accepting new models, can be seen in the successful implementation of pasture management, in the perception of the benefits of spring regeneration by the municipal population, and, albeit in an incipient way, in the introduction of activities such as fish farming, which uses local biodiversity and generates income.

In the projects analyzed in this report, the Sustainable Production Component focuses on most of the direct effects and results, encompassing:

In the projects analyzed here, the Sustainable Production Component concentrates most of the direct effects and results, encompassing:

- the recovery of deforested and degraded areas and their use for economic and ecological conservation purposes;
- the development of economic activities for the sustainable use of the forest and biodiversity;
- expanded managerial and technical capacities for the implementation of activities and economies of sustainable use of the forest and biodiversity; and
- agroforestry and biodiversity product chains with increased added value.

4.2.1 Deforested and degraded areas recovered and used for economic purposes

Four of the five projects evaluated carried out actions to recover degraded areas (Figure 9). All of them prioritized the recovery of springs and stream edges, as a way not only to comply with the determinations of the Brazilian Forest Code (Law No. 12.561/2012 on the Protection of Native Vegetation), but also to guarantee urban water supply. This decision was inspired by the previous experience of Alta Floresta, which had already recovered springs in the first phase of the Amazon's Water Springs project. From a political point of view, this seems to have been the right decision, as it guaranteed the support of a large part of the (mostly urban) population of the municipalities for the project by providing them with an ecosystem service of high value. Based on the *New Paths in Cotriguaçu* project, there was also the revitalization of a set of areas belonging to the 14 Brothers Basin, in this municipality, an area responsible for the water supply of its urban area.

Figure 9: Actions to recover degraded areas

PPA under recovery by the Recovering Marcelândia project

PPA under recovery by the Buriti Springs project

Bale of seedlings for donation to the beneficiaries of the Recovering Marcelândia

PPA recovered by the New Paths in Cotriguaçu Project

Source: Images taken by consultants during field visits (2022)

The municipalities used their chosen regeneration techniquesfor the recovery of degraded areas, which was done based on previous experiences of the technicians, available from seeds and seedlings. Chart 2 summarizes the recovery activities in these four municipalities.

CHART 2: Summary of actions for the recovery of degraded areas in municipal projects

Projects	Number of springs/sections of streams	Area with intervention	Technique
Amazon's Water Springs – Phase II		3.368 ha	Natural regeneration with fencing of pasture areas Seedlings Seeds
Buriti Springs	534	1.912,50 ha	Seedlings in tubes
Recovering Marcelândia	50		Seedlings in bags Seeds Natural regeneration with fencing of pasture areas
New Paths in Cotriguaçu	34	134 ha	Natural regeneration Seedlings in bags

Source: Consultants' own elaboration (2022)

The analysis of the recovery of PPAs from the Buriti Springs Project, carried out by sampling, shows that there has been an increase in soil coverage. The area of exposed soil had a steady decrease from 130.48 hectares (47.84%) in 2011 to 64.41 (23.61%) in 2022. Vegetation areas increased from 142.09 hectares (52.10%) in 2011 to 208.28 (76.37%) in 2022, highlighting the significant increase in the area of dense vegetation that, between 2011 and 2022, went from 35.19 to 158.72 hectares.

According to the results, it is possible to conclude that, in the area covered by the *Marcelândia Recovery* project, there was

significant progress in reducing areas of exposed soil and increasing areas of dense vegetation. The moderate regeneration area also showed a positive movement, first in 2020, when there was an increase in this area, and in 2022, although there was a decrease in this class, there was a succession for dense vegetation, indicating that these areas were preserved.

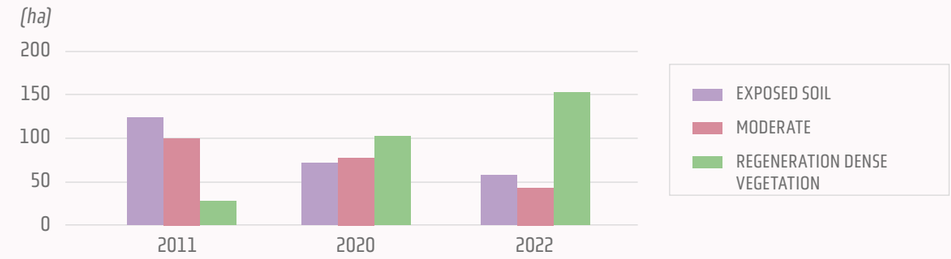
Despite the positive progress recorded, it should be noted that in 2022 the area of exposed soil still represented 62.01% of the total area, while 37.99% of the area was covered by some type of vegetation. This indicates a high degree of degradation of PPAs in Marcelândia.

When the springs were analyzed individually, it was found that a large portion of the total area of exposed soil in 2022 corresponded to the 17 springs that had little or no vegetation cover from the beginning to the end of the project and thus remained. On the other hand, all other springs had a growth of their vegetation areas. It is noteworthy that 12 springs left the state of total exposed soil areas, with a significant increase in vegetation cover, 8 of which with more than 50% of the area regenerated.

These data seem to corroborate the interviews that indicated the negative impact of soybean advances on some recovering PPAs. On the other hand, they show that the actions of the Recovering Marcelândia project have had a positive impact, as evidenced by the significant percentage of regeneration and conversion of exposed soil into vegetated areas.

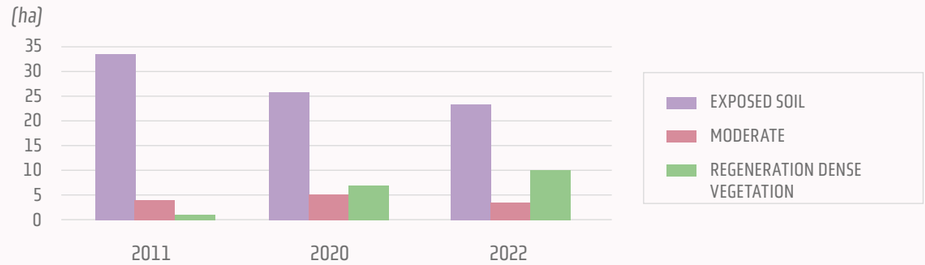
The results indicate a different dynamic of recovery in Carlinda and Marcelândia, which can be the result of both institutional variables (inspection, rural extension and environmental education) in each municipality and the recovery methods adopted. (Figures 10 and 11)

Figure 10: Evolution of regeneration of degraded PPAs in Carlinda (Buriti Springs project)



Source: Consultants' own elaboration (2022).

Figure 11: Evolution of regeneration of degraded PPAs in Marcelândia (Recovering Marcelândia project)



Source: Consultants' own elaboration (2022).

4.2.2 4.2.2 Economic activities for the sustainable use of forests and biodiversity identified and developed

The *Amazon's Water Springs* – Phase II and New Paths in Cotriguaçu project had a component of promoting good livestock practices. In Cotriguaçu, six pasture management demonstration units were established. The *Amazon's Water Springs project – Phase II* worked on a larger scale, with 20 demonstration units and technical assistance to 103 families. Although this is a typical theme of agricultural extension, the increase in pasture productivity has a very large potential effect of reducing the demand for new land, in addition to increasing the income of producers.

These livestock improvement activities also have a political benefit. Although they were directed to small producers whose properties had the installation of demonstration units, the diffusion of the technology reaches medium and large producers. In Alta Floresta, large and medium producers demonstrated support for the results of the *Amazon's Water Springs* project in its two phases. However, for productivity gains to be translated into environmental benefits, command and control policies must be effective, otherwise the additional income from the activity may be offset by the acquisition and deforestation of new land.

For the activity of promoting good practices for livestock, the goal of *New Paths in Cotriguaçu Project* was the implementation of a total of six pasture management demonstration units. Of the total planned, 66.6% of the target was achieved, i.e. four demonstration units. A number of challenges and adjustments to the project were identified for the implementation of this activity.

Looking only at the achievement of the objective defined in the project, the efficacy criterion did not achieve what was planned in Cotriguaçu. However, the Amazon Fund itself, in its evaluation of the project, considers that

> despite the partial result in the number of demonstration units (DUs), the efficiency gain observed in the implemented DUs is a positive sign of the importance of this type of action, which leads to the territory New ways of occupying the property that favor the adhesion of production rather than the pattern of opening new areas.[6]

6 AMAZON FUND. **https://www.fundoamazonia.gov.br/pt/projeto/Semeando-Novos-Rumos-em-Cotriguacu/**

Based on the experience of the project, the municipality of Cotriguaçu continues to work with strategies to promote good practices for livestock, based on the Sustainable Production of Calves Program, which is implemented by the *PCI Vale do Juruena* project. Thus, it is assessed that the project supported by the Amazon Fund provided the technicians of the Municipal Environment Secretariat of Cotriguaçu with technical and operational training for the implementation of sustainable livestock strategies.

Another innovative component identified from the municipal projects was the establishment of a payment mechanism for environmental services in Alta Floresta – the Guardião de Águas Program – which included 177 properties. The producers who joined the program formally committed, through the Degraded Areas Recovery Plan (PRAD) and the Term of Conduct Change, to maintain the vegetation in the springs and streams. In return, they receive R$240.00 per hectare per year. The program was regulated by Municipal Law No. 1.556/2013 and has its own budget, allocated by the City Hall.

4.2.3 Expanded managerial and technical capacities for the implementation of economic activities for the sustainable use of forest and biodiversity

The training of rural producers in forest restoration techniques was mainly carried out in situ, during the plan, when technicians and employees of the agricultural secretariats joined the rural producers to start the work of planting seedlings and seeds.

Previously, from the *Buriti Springs* project, workshops were held in the 28 communities selected for the restoration actions. In these workshops, producers were also oriented to carry out their PRADs. In total, 4,136 people participated in these workshops.

In Alta Floresta, training began as soon as the recovery activities of degraded areas began, at the beginning of Phase 1 of the *Amazon's Water Springs* project, and continued without interruption until the end of Phase II of the project. (Figure 12)

Figure 12: Training activities for rural producers to regenerate degraded areas in Alta Floresta, MT

Source: Images provided by the Amazon's Water Springs Phase II project team

Right at the beginning of the Amazon's Water Springs project – Phase II, the Municipal Environment and Sustainable Development Secretariat of Alta Floresta developed a communication and environmental education plan to publicize the project's actions. These actions included the production of leaflets and posters, dissemination of the project through traditional media (radio and TV), construction of a web page and, more at the end of the project, creation of a Facebook profile. The communication plan was designed as a tool to attract the ruin owners to adhere to the activities of the projects.

From the communication strategy, even after the completion of the project, the website was maintained, which became a repository of academic works that had as their object of study the experiences of the two phases of the *Amazon's Water Springs* project, as well as general information about the *Adopt a Spring and Agenda 2030* projects, which were transversal to the intervention supported by FUNDA do Amazonia.

The communication was enhanced by the fact that the project, in its two phases, was awarded by governmental and non-governmental organizations.

The awards won include:

- Recognition of merit within the Environmental Management Award in the Amazon biome in the category Environmental Monitoring, Control and Recovery within the Environmental Management Qualification Program (PQGA), executed by IBAM and financed by the Amazon Fund;

- Highlight Award from the National Water Agency (Ana) in the Government category. In addition to the trophy, the Municipal Environment and Sustainable Development Secretariat of Alta Floresta was granted an award of R$527 thousand for investment in projects for the recovery of springs in the Mariana Basin; and

- 2nd Best Project in the Midwest Region at the IX Sebrae Empreendedor Mayor Award.

As a result, the municipality, which was already a reference in environmental management in the region, gained projection on a regional scale.

4.2.4 Agroforestry and biodiversity product chains with added and expanded value

The projects analyzed did not prioritize the promotion of extractive production based on local biodiversity. This is partly because they started from the initial need to strengthen municipal environmental systems. Furthermore, the north of Mato Grosso does not have the tradition of extractivism of vegetable outputs common in other regions of the Amazon, such as rubber, Brazil nuts and açaí.

It was precisely the municipality that already had a more robust municipal system – Alta Floresta – that invested in the chain of products with low impact on the forest: fish farming, beekeeping and organic horticulture.

For the implementation of fish farming strategies, from the Amazon's Water Springs project, 85 were built and 14 tanks were renovated for fish farming (Figure 13), which initially received fry from Tambaqui, which were later replaced by Tambatinga, a hybrid of two species native to the Amazon, Tambaqui (*Colossoma macropomum*) and Pirapitinga (*Piaractus brachypomus*). This adaptation was due to the better carcass yield and higher price achieved by the hybrid in the local market. The biggest challenge for fish farming is to verticalize the chain. One of the bottlenecks that exists today is the lack of an ice factory, which makes trade with other consumption centers more expensive. The same happens with feed, which is purchased outside the municipality.

Figure 13: Fish harvesting from tank built as part of the Amazon's Water Springs Phase II project

Source: Photograph provided by the team of the Amazon's Water Springs Phase II project

These tanks still remain in full operation. During the field visit, it was possible to interview some beneficiaries of the project. For these people, the project provided and still provides a good income generation and an economic activity that remains sustainable to this day. It was possible to identify that the production of some of these beneficiaries reaches an average of between 6 and 8 thousand kilos per year and that the sales value in the local market is R$8.00 per kilo.

The testimony of one beneficiary of the project is symbolic of the project's impact: "We beneficiaries of the fish farming project produce food from fish, generate food security and quality of life, and the big producers here produce soybeans"[7].

During these visits, it was found that the beneficiaries had a good understanding of the stages of the project, since its implementation. And today, when these families need technical

7 Statement by a beneficiary of the Amazon's Water Springs Project.

assistance, they are advised by the municipal authorities.

Beekeeping was developed from the implementation of a municipal apiary, for the creation of the Uruçu Boca de Renda bee (*Melipona seminigra merrilae*), a stingless species native to the Amazon (Figure 14). During the project period, 300 boxes were distributed free of charge to 50 families. Even with the completion of the project, the apiary remains in full operation, but distribution is no longer free. The Municipal Environment and Sustainable Development Secretariat of Alta Floresta holds today an exchange with producers of boxes filled by empty boxes, which allows to expand the activity at a very low cost.

Figure 14: Municipal Apiary of Alta Floresta

Source: Images taken by consultants during field visits (2022)

The challenge for the project technicians is to strengthen the chain and create better conditions for the commercialization of honey in the municipality. Despite the high price of honey in the local market (R$100.00 per liter), the activity is typically for self-consumption and the production scale is still small due to the low productivity of bees.

It is worth noting that one group that has been effectively involved in this activity are women and members of a mothers club that operates in the municipality. Another important finding identified in this evaluation is that the apiary is used as a reference and for training activities by other municipal preferences, universities and technical assistance agencies and rural extension.

Finally, organic horticulture was developed in Alta Floresta from the implementation of 20 vegetable gardens. These producers not only received technical assistance from the City Hall to introduce crops, but also had their areas regulated through the implementation of the CAR. (Figure 15)

Figure 15: Organic garden in Alta Floresta, MT.

Source: Amazon's Water Springs Phase II project team

Based on this experience, the beneficiary producers have their outputs certified and are now part of the Association of Organic Producers (ASPOAF). In addition to their own consumption, the farmers sell their products at several markets in the urban area of Alta Floresta, and are included in government procurement programs such as the Food Purchase Program (PAA) and the National School Lunch Program (PNAE), in addition to municipal programs.

A challenge in relation to this strategy, which was not carried out by the project, was the monitoring of production.

4.3 Monitoring and Control Component (2) – Government actions ensure the adequacy of human activities to environmental legislation

The projects had a very positive effect on municipal capacity in the environmental area. All city halls invested in the headquarters of their municipal environmental secretariats, with the exception of Alta Floresta, which had already done so in the first phase of the *Amazon's Water Springs* project. In addition to the earlier reforms and the acquisition of vehicles and computer equipment, the legacy of the projects was the structuring of seedling nurseries, which, in most municipalities, continued to function even after the end of the projects. Besides the physical structure, there were significant advances in the qualification of the technical-administrative teams of the secretariats. This took place both within the scope of each project, according to its specific objectives, and transversely, through the PQGA. This program provided technical support to municipal governments through multiple tools – from distance learning to the production of on-demand legal opinions.

The municipalities also proved to be able to potentially affect the environmental regularization of private properties in their territories, mainly through the elaboration of the CAR. The municipalities opted for different strategies to support producers, while some used the secretariat team, others hired private companies. There were also those who established agreements with NGOs. The installed capacity for the production of seedlings and the experiences of recovery of degraded areas suggest that preferences can have a great impact on the recovery of environmental liabilities in the municipal territory.

4.3.1 Structured and modernized environmental monitoring, control and accountability institutions

Infrastructure

One of the main results of the projects is to ensure that the municipal secretariats of Environment are structured to ensure the execution of basic environmental management activities. Of the set of projects that are the object of this technical evaluation, the only one that did not cover this type of activity was *Amazon's Water Springs – Phase II*, since the Municipal Environment Secretariat of Alta Floresta had already been structured in the first phase of the project, also financed by the Amazon Fund. The Preserving Porto dos Gaúchos project had this as the only activity carried out from the intervention.

The projects allowed the secretariats to undergo building reinforcements and acquire computer equipment and equipment necessary for routine activities (Figures 16 and 18).

Figure 16: Vehicle purchased for the Buriti Springs project, in Carlinda, MT.

Source: Image taken by consultants during field visits (2022)

Figure 17: Headquarters of the Municipal Secretariat of Cotriguaçu-MT, built from the actions of the project New Paths in Cotriguaçu

Source: Image taken by consultants during field visits (2022)

Figure 18: Headquarters of the Municipal Secretariat of Porto dos Gaúchos, built from the actions of the Preserving Porto dos Gaúchos project

Source: Image taken by consultants during field visits (2022)

Two cases in particular stand out:

- Alta Floresta, which already has a consolidated environmental structure and works independently of the Amazon Fund's resources; and

- Porto dos Gaúchos, which, with very modest support, managed to structure its secretariat to the point of entering the Decentralization Program for Environmental Licensing in the state of Mato Grosso, which is not easy, given that the regulations that regulate decentralization in the state of Mato Grosso – CONSEMA Resolution No. 86/2013 – imposes a series of constraints[8].

The permit reflects a deeper commitment to local environmental management. On the one hand, it requires prior investments in the infrastructure and human resources of the secretariats and, on the other, brings to the municipalities significant fiscal resources and the possibility of providing more efficient services to the local population. What can be observed, however, is that the decision to pursue decentralization is much more political than technical, since the activity imposes burdens on municipal managers, who are obliged to strictly apply environmental legislation and collect the corresponding fees. The decision to take on licensing responsibilities may change as the local economy grows and diversifies. This not only allows the city to achieve a greater scale of collection of licensing fees, but could change the perception of those who n eed to obtain en-

8 Art. 4 For the exercise of environmental licensing, monitoring and inspection, the municipalities are considered qualified if they have: I – Municipal Environmental Council as an advisory, deliberative and appeal body, of equal composition, duly implemented and in operation; II – Municipal Environmental Fund, duly implemented and in operation;
III – qualified environmental agency, meeting the requirements of item II, of Art. 2 of this Resolution; IV – Multidisciplinary team composed of municipal employees of its own staff or in public consortia, legally qualified and endowed with legal competence to carry out environmental licensing, monitoring and inspection activities; V – Municipal environmental standards regulating administrative licensing, inspection, activities inherent to environmental management, land use and occupation law for all municipalities and a master plan for municipalities with more than twenty thousand inhabitants.

vironmental licenses, since the process is faster when done in a decentralized manner.

The prioritization of environmental activities as a whole is a political issue. Over time, it is evident that the secretariats have undergone successive changes, sometimes assuming exclusive responsibility for environmental issues, sometimes accumulating and competing with other issues, especially agriculture.

The municipalities of Alta Floresta and Cotriguaçu stand out for having a secretariat dedicated exclusively to the environment, although, in Cotriguaçu, the secretary responsible for the environmental agenda also accumulates the responsibilities of the area of Economic Development, Agriculture and Land Affairs.

All municipalities keep their secret facilities in good condition. Many of them have already modernized their infrastructure and others, in addition to the bureaucratic part, have seedling nurseries, which are still in full operation, although with a smaller scale of production in most municipalities (Figures 14 and 15). In the Municipal Secretariat of Porto dos Gaúchos, for example, there is a municipal nursery, whose implementation was funded from the Municipal Environment Fund's own resources.

An important finding in this evaluation is that, according to the managers of the municipalities of Cotriguaçu and Porto dos Gaúchos, the fact that they managed to be included in the licensing decentralization process with the State Environment Secretariat of Mato Grosso (SEMA/MT) is due to the experience with the implementation of the projects supported by the Amazon Fund in their respective municipalities.

Chart 3 shows a summary of the activities that each secretariat developed at the time of the field visit, as well as information on the number of people in the technical teams of the respective municipal institutions.

Figure 19: Seedling nursery of the Buriti Springs project, Carlinda-MT

Source: Image taken by consultants during field visits (2022)

Figure 20: Municipal Nursery of Porto dos Gaúchos

Source: Image taken by consultants during field visits (2022)

CHART 3: Main activities carried out by the municipal environment secretaries

Municipalities	Competencies of the Secretariat (2022)	Environmental technicians	Main equipment	Decentralized Licensing
Alta Floresta	Environment	12	Apiary Seedling nursery	Yes
Carlinda	Agriculture, Livestock, Trade, Industry,	3	Seedling	No
Cotriguaçu	Environment	5		Yes
Marcelândia	Environment and Agriculture	1	Seedling	No
Porto dos Gaúchos	Environment and Tourism	6	Seedling nursery	Yes

Source: Consultants' own elaboration based on information collected in the field mission (2022)

Environmental Management Qualification

In addition to investments in the infrastructure of the secretariats, the municipalities benefited from the services provided by the Brazilian Institute of Municipal Administration (IBAM), within the scope of the *Environmental Qualification and Management Program – PQGA*. Although this program was not designed to serve municipalities that had projects financed by the Amazon Fund, they benefited from its actions. The program had six lines of actions with impacts on the municipalities of the Brazilian Amazon.

Action 1 – Training focused on environmental management for municipalities

It is the offer of training for managers and representatives of civil society in modules offered as distance learning (DL), with the support of a virtual learning environment (VLE). This action had great dissemination – 5547 participations in courses, with participants from 408 municipalities. The activities were open and their target audience was not exclusively environmental managers, although many training topics have been suggested by managers, both at the time of signing the cooperation terms as well as during the first qualifications. In the field visits, almost all the interviewed technicians and managers had participated in at least one qualification offered by the PQGA.

Action 2 – Meetings with the Municipal Legislative Branch

The objective of this line of action was to boost the debate and participation of the Legislative Branch in topics of interest to the environmental agenda of the Brazilian Amazon through meetings with municipal political agents. 28 meetings were held in seven states, with the participation of 1,518 councilors. These numbers are impressive, but it is necessary to consider the size of the challenge of involving councilors in environmental policies, given the little interest of their voters in the subject. During the field visits, municipal managers confirmed the low involvement of the legislature with environmental policies. Even so, the awareness and training of the Legislature at least help the Executive Branch to approve relevant environmental legislation.

In addition to the meetings, booklets were produced focusing on the role of municipal councils in improving management, governance and the environmental agenda, as well as improving public environmental policies and the budget to finance these municipal strategies.

Action 3 – Technical-legal guidance to municipal governments

objective of this line of action was to provide municipalities with remote technical assistance based on

consultations and production of opinions and technical guidelines. It also included the maintenance of a portal containing studies, legal opinions, models of bills, technical articles, projects, research, good practices and other documents of interest to the municipal administration. The PQGA engaged 53 consultants to prepare 50 technical notes. Furthermore, it compiled a library of legal documents that had 5,294 accesses from 247 municipalities.

This seems to have been the central line of action of the PQGA, given the chronic lack of legal advice with qualification in the environmental area in small municipalities. This shortage forces municipal secretaries to turn to private legal firms or, in the absence of budgetary resources, to risk making decisions that may be challenged in court or to opt for inaction.

Action 4 – Learning Communities

This was a continuing education strategy that aimed to create networks that would allow graduates of the training processes to exchange experiences and deepen themes of common interest. In IBAM's own evaluation, these networks worked better with a focus on discussions related to each state than with a focus on specific issues, which was the original objective of the action. Moreover, the states that had the greatest participation in the network – Pará and Maranhão – were those in which there were people acting as the focal point of the PQGA and where the program organized more in-person meetings. In the municipalities located in the north of Mato Grosso, we could not detect the operation of these networks, despite the fact that the managers had provided training offered by the PQGA.

In the interviews, participants from the communities in Pará made clear the importance of the network, which, at the same time, facilitated and was valued by the participation of technicians and municipal secretaries of the environment in the Green Municipalities program in the state of Pará and which also has funding from the Amazon Fund.

Action 5 – Awarding good practices

The objective of this line of action was to reward municipalities and NGOs that stood out for adopting practices, actions and projects aimed at preserving natural resources from the perspective of sustainable local development.

There was participation of 183 municipalities and registration of 140 practices, of which 61 were selected – 10 awarded and the others recognized. The practices were divided and awarded into five categories: environmental education; territorial and land management; social and environmental governance; sustainable production and conservation incentives; monitoring, control and environmental recovery.

Regarding the projects that are the object of this evaluation, *Recovering Marcelândia* and *Buriti Springs* were included in the award promoted by the PQGA. Both were qualified but not awarded. The municipalities of Porto dos Gaúchos, on the other hand, presented two experiences – *100% Legal Port and Selective Collection – Sustainable Port* – and Alta Floresta presented two others, the *Amazon's Water Springs* project – *Phase I* and *Environmental Regularization*, projects that were enabled, but not awarded. The Environmental Secretariat of Cotriguaçu presented the Environmental *Regularization and Adequacy project in Rural Properties Related to the Rural Environmental Registry* and was among the ten awarded practices.

Although it seems trivial, the award touches on a very important subjective aspect: the vanity of the public manager and even the population, which sees its mu-

nicipality recognized. When asked about the PQGA, the first thing the local respondents remembered was the award, even though their communities had not won. The mere fact of having their projects registered was already a very valued sign of recognition.

Action 6 – Improvement of state-municipal relations to decentralize environmental management

This line of action aimed to promote cooperation between states and municipalities and other partners for the monitoring and sharing of information, as well as for the monitoring of policies, programs and projects in the environmental area. The actions involved 925 trained managers and technicians from 174 municipalities. They participated in 14 state meetings on the policy of decentralization of municipal environmental management and 5 macro actions (training workshops on environmental licensing in the states of Mato Grosso, Amapá, Roraima and Maranhão with the participation of 330 people from 63 municipalities).

As such, the PQGA managed to enable a set of partnerships with sub-national governments and non-governmental organizations seeking to improve and increase the protagonism and representativeness of municipal environmental managers in the policies of their responsibilities.

Based on the criteria of this evaluation, one of the direct impacts of the PQGA was the creation and structuring of the Permanent Forum of Municipal Environmental Secretariats of the State of Pará (FOPESMMA), composed of 133 municipalities. FOPESMMA is still in full operation today, with a communication channel on Facebook.

According to the testimonies collected in the interviews at the time of the pandemic, FOPESMMA had an important role in supporting municipalities with guidance on various issues in the environmental area. Since the creation of the FOPESMMA, the municipal managers have been able to facilitate the participation of this collegiate body in the various bodies of environmental policy governance, such as the State Council for the Environment, the State Council for Water Resources and the State Council for Municipalities. For a former coordinator of this Forum:

> When the PQGA supported the creation and functioning of the State Forum in Pará, it strengthened the dialogue among the municipal secretaries and was fundamental in the negotiations of the environmental licensing process in the municipalities of Pará, as well as in the mobilization with the press, with the government agencies that work with environmental inspection and control, and with the judicial agencies of the state.[9]

In addition to the experience of FOPESMMA, another impact identified was the creation of the Forum of Municipal Secretaries of the Environment of Amapá, in 2018, which also remains in full operation. In June 2022, the members of this collegiate body were involved at the meeting "Green June 2022: The Environment and Environmental Policies generating business in the State of Amapá", promoted by the State Environment Secretariat of Amapá, in which they elected the new board of directors, signed agreements with the government of the state of Amapá and participated in seminars.

There was an attempt to implement an instance such as the one that had been successful in the states of Pará and Amapá for Maranhão, but the effective implementation of the forum was not possible.

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9 Testimony of a former FOPESMMA coordinator, held virtually in August 2022.

4.3.2 Expanded access for rural producers to the environmental regulation of their properties

The direct effect "expanded access for rural producers to the environmental regulation of their properties" was related to the *Amazon's Water Springs* project – *Phase II*. However, in this evaluation, we consider it important to bring a reflection on the theme within the scope of the set of municipal projects that had support from the Amazon Fund within the call of municipalities.

In the municipalities that were included in the priority list to combat deforestation – Alta Floresta, Cotriguaçu, Marcelândia and Porto dos Gaúchos – there was pressure to reduce deforestation and include the land in their territory in the CAR. Even in Carlinda, a municipality that was not included in the list, the need to invest in CAR was felt, mainly because the municipality has an agrarian structure with a predominance of small properties, whose owners would have financial difficulties to take care of the legalization of their lands alone.

As in the case of the recovery of degraded areas, municipalities have adopted different ways of working with the regularization of properties. Marcelândia hired a private company to perform the CAR in the municipality. Carlinda, in turn, had an important partnership with the Instituto Centro de Vida (ICV) to perform the CAR of 300 properties and assist another 608 rural properties in the preparation of the PRAD. Alta Floresta, which had already invested in the CAR in the first stage of the Amazon's Water Springs project, rectified 445 registrations. Undoubtedly, the latter was the municipality that made the most progress in creating local control and monitoring capacity, not only for having acquired precision equipment in the first phase of the project but also for having trained and maintained the personnel of its technical team in the Municipal Environment and Sustainable Development Secretariat of Alta Floresta.

Table 2 shows the CAR situation in each municipality in 2022.

Table 2: Rural Environmental Registry Figures for each municipality

Municipalities	Municipal area (km²)	Number of CARs	Total Area with CAR (km²)	Difference in Areas (km²)	Area with CAR and deforested (total by 2021 in km²)
Alta Floresta	8.955	3.347	8.346,61	608,82	119,60
Carlinda	2.422	2.038	2.143,43	278,36	31,18
Cotriguaçu	9.470	1.491	5.927,56	3.542,45	617,04
Marcelândia	12.285	1.752	9.401,86	2.883,63	1.071,39
Porto dos Gaúchos	6.847	1.135	6.584,10	262,56	266,61

Source: Consultants' own elaboration (2022)

Box 1

Partnership and Articulation

Several partnerships with environmental and subnational environmental inspection agencies were identified: the projects contributed to municipalities being able to access SEMA/MT policies:

1) directly with the Mato Grosso System of Environmental Registration (SIMCAR), through the realization and rectification of the CAR and the preparation of the Degraded Areas Recovery Plan (PRAD) and adherence to the Environmental Recovery Program (PRA) and;

2) indirectly, helping the secretariats to structure themselves, which made it possible for three of them to adhere to the decentralization of environmental licensing.

Another highlight is the partnership with non-governmental organizations that work with the environmental theme. Instituto Centro de Vida (ICV) was a very important partner in almost all projects. It was a pioneer in the work of georeferencing, identification of degraded areas and measurement of environmental liabilities in the northern region of Mato Grosso. In addition to subsidizing the projects with this information, it worked directly in the elaboration of the CAR.

In Porto dos Gaúchos, The Nature Conservancy of Brazil (TNC), in association with the Bunge group, allowed advances far beyond what was initially foreseen in the project funded by the Amazon Fund. In this municipality, from this partnership, it was possible to implement the Porto dos Gaúchos 100% Legal project.

The articulation of the projects with other municipal policies is very clear in cases where sustainable productive activities have been developed. The synergy with policies aimed at the agricultural sector is evident, for example, in the dissemination of good agricultural practices, which remains on the agenda of extension of municipalities.

The Amazon's Water Springs project managed to enable a set of national and international partnerships. Based on the project, it was possible to articulate with Embrapa Agrossilvopastoral to support the implementation of good livestock practice strategies, as well as the implementation of actions aimed at agroforestry systems and natural regeneration.

From the same project, it was also possible to articulate the implementation of the Municipal Apiary with the strategies of the 2030 Agenda in Alta Floresta, thus being able to achieve the Sustainable Development Goals "13 - Action on Global Climate Change" and "15 - Terrestrial Life". Furthermore, it also allowed the inclusion of the municipality of Alta Floresta in the Plant for the Plant - Climate Justice Ambassadors program.

In relation to the PQGA, the partnerships were even more significant, as the intervention included the nine states of the Brazilian Amazon. Thus, the articulations and partnerships passed through both the organizations and agencies of subnational governments, as well as municipal organizations and non-governmental organizations. This strategy aimed at greater integration, participation and dialogue of the program's actions and activities with these organizations.

In all nine states, partnerships were established with some government agency that was involved with environmental policies. In relation to municipal organizations, only in the states of Roraima and Tocantins it was not possible to establish partnerships. With non-governmental organizations, the challenge was in the states of Amapá, Roraima and Tocantins.

4.4 Case Study

The municipality that supported the case study that will be presented in this item is Brasil Novo, located in the South-East Pará mesoregion. The objective of this study is to carry out a counterfactual analysis, which consists in comparing the main environmental policies of the Municipality of Brasil Novo with the municipal projects submitted for the evaluation of their effectiveness in the framework of the Amazon Fund / BNDES.

The choice of this municipality is justified because it was on the list of priority municipalities created under the PPCDAm and has productive and economic activities similar to those of the municipalities supported by the Amazon Fund/BNDES, but did not receive support from the Amazon Fund.

Brasil Novo, has an area of 6,362.60km^2 (2021) and a population of 15,690 inhabitants. The municipal economy is concentrated in extensive beef cattle raising, extraction of hardwood, trade and provision of basic services, perennial agriculture (cocoa, coffee, black pepper, fruits), agricultural crops (beans, rice, corn, cassava, etc.) and some artisanal industries and medium-sized sawmills. In Brasil Novo, the agricultural sector holds the largest share of municipal gross domestic product (GDP), corresponding to 40.33%, followed by the administration and public services sector with 28.72%, services with 22.66%, taxes with 4.85% and industry with 3.44%.

The municipality is included in the Ecological-Economic Zoning (ZEE) of the Area of Influence of Highways BR-163 (Cuiabá Santarém) and BR-230 (Trans-Amazonian Highway) in the State of Pará - West Zone. It measures 1,550km2 in the Ararara Indigenous Land (IL) and no conservation unit (CU) in its territory, despite having a Municipal Law (No. 023/2002), which promotes the creation of CUs and protected areas.

In 2007, the municipality of Brasil Novo entered an embargo process by joining the list of deforesting municipalities in the Amazon. In 2014, it left the list of deforesters in the Amazon and received the Green Municipality Award. According to the Planning Secretariat of the State of Pará, in 2016, the municipality of Brasil Novo renewed the pact against deforestation in the state.

For this reason, the municipality was forced to find ways to curb deforestation and soil degradation. Amid the solutions, the secretariat implemented the ZEE, which tripled the number of CAR. Less than a year after the end of the embargo, a set of laws was created that guaranteed the adhesion of producers previously accustomed to intensive livestock farming, the basis of their economy, to obtain income by conserving the forest or restoring their areas.

With the need to regularize the municipality and face the loss of forests in the Amazon under Brasil Novo, there was also the implementation of the Plan for Prevention, Control and Alternatives to Deforestation of the Municipality of Brasil Novo - Pará (PPCAD-BN/PA). The plan was drawn up in 2013, with the political understanding of the municipal government at the time that it was necessary to gradually reduce the rate of deforestation in the municipality and consolidate the conservation of the remaining forest in the municipality, ensuring strict protection where necessary and reconciling the rational use and reduced impact of resources. The PPCAD-BN/PA guides, through its creation, the organization and prioritization of deforestation control strategies, through three main areas:

1. Territorial, Land and Environmental Management: defines and lists the priority actions for land and environmental regularization in the municipality;

2. Promotion of Sustainable Activities: defines and lists the set of actions that should encourage the adoption of new economic models, thus contributing to the paradigm shift of development and, therefore,

3. Monitoring and CONTROL: defines and lists the fundamental actions to improve the efficiency of deforestation control in the municipality.

As a result of the PPCAD of Brasil Novo, today the municipality has more than 80% of the properties registered in the National Rural Environmental Registry System of Pará (SICAR-PA), of which 223 registrations have already gone through the analysis process and are validated.

Created by Law No. 192 of November 20, 2014 and regulated by Decree No. 479 of December 15, 2015, the Brasil Novo Water Conservation project aims to recover the Jauruçu river basin with the implementation of actions to improve the quality and increase the quantity of water and financial support to rural landowners. The project grants incentives (payments for environmental services – PAS) to rural property owners who adopt conservation practices aimed at the maintenance and recovery of their permanent preservation areas (PPAs), in order to guarantee the maintenance of environmental services related to the conservation of biodiversity, water resources and carbon stocks. The Brasil Novo Water Conservation Project foresees the Municipal Secretary of Environment (SEMMA) of Brasil Novo as the competent agency for the management, but it is executed through the sum of efforts between the Amazon Environmental Research Institute (IPAM), the Socio-Environmental Institution (ISA) and the Federal University of Pará (UFPA).

The project for *Deployment of Demonstrative Units for the Restoration of Legal Reserve and Permanent Preservation Area in the Municipality of Brasil Novo – Pará*, which has been executed by SEMMA of Brasil Novo and the Faculty of Forest Engineering of UFPA, provides for the restoration of the legal reserve and the permanent preservation area of rural properties in an exemplary way and that will encourage small producers to adopt good environmental practices as a mechanism for generating income. For the implementation of the project, the identification of rural producers, visits to properties and environmental diagnostics, construction of nurseries, production of seedlings, support to Technical Assistance and Rural Extension (ATER), monitoring, dissemination and environmental education were performed.

In the productive sector, there is a strong partnership between SEMMA and the Municipal Secretariat of Agriculture and Mining (SEMAM) of Brasil Novo, which, together with the third sector, seek mechanisms to associate forest restoration with fruit trees, technical assistance and the feasibility of production chains. As such, SEMAM develops, in partnership with SEBRAE and IPAM, the Sustenta e Inova project. The initiative has served 40 families in Brasil Novo with individual and collective technical assistance, support in the transition and adoption of new agricultural production technologies, training in production systems, support in accessing credit and organizing processes for the environmental adaptation of rural property, and support in strengthening local organizations.

In another of the actions and projects together, SEMAM, SEMMA and the *Sustainable Territories Program* (Government of the State of Pará), implemented, in Brasil Novo, the recovery of degraded areas through agroforestry systems (SAFs) with a focus on fruit species of cocoa and açaí. Currently, 100 families are benefiting from the project and are working on the restoration of 110 hectares. The choice of cocoa is due to the strong production and consolidation of the chain in the state of Pará.

Thus, the municipality of Brasil Novo left the title of "deforester" and now dresses in the guise of a Green Municipality. Over the last 10 years, the Municipal Secretary of the Environment, the Municipal Council of the Environment, the Municipal Environment Fund have been created, as well as an archive of robust and innovative legislation.

Next, we have the analysis of impacts generated by the projects that touch the environmental agenda of the municipality

of Brasil Novo. Chart 2 presents the qualitative scale, being: (i) no: when the actions were not developed or the results obtained are reduced; (ii) partial: they present limited growth and (iii) effective: when the changes presented are significant.

CHART 4: Evaluation of the actions performed in the municipality of Brasil Novo - PA

	Actions	No	Partial	Effective	Situation Analysis
1	**Raising awareness and stimulating CAR**				Brasil Novo registered more than 80% of the municipality's properties in SICAR-PA, through a large campaign carried out by SEMMA of Brasil Novo.
2	**Community Organization (associations, cooperatives, council)**				Currently there is the Advisory Council on Environment and Agriculture, with equal participation between civil society and public authorities. The creation of the Council, as well as the Secretariat for the Environment, is part of the Term of Conduct Change (TAC) that the Municipality undertook to withdraw from the embargo. But the practice of establishing associations and cooperatives is still inexpressive, even with the strengthening of production chains in the municipality of Brasil Novo.
3	**Articulations and partnerships between NGOs, universities and state/federal government**				Since the creation of Brasil Novo's environmental agency, programs and projects have brought together experiences and resources from different sources. All projects in force at SEMMA of Brasil Novo have the collaboration of partners (elaboration, monitoring and/or execution).
4	**Training of technicians from the environmental agency**				Between 2021 and 2022, SEMMA technicians were trained in CAR Analysis and Validation by the municipality. Furthermore, 2 technicians have been trained in the Training of Environmental Agents.
5	**Municipal Environment Secretariat**				Created in 2013, based on a Term of Conduct Change (TAC) that the municipality undertook to withdraw from the embargo. Currently, the Municipal Environment Secretariat has a technical team composed of commissioned public servants.
6	**Municipal Environmental Fund**				The municipality allocates 100% of the Green ICMS to the Municipal Environmental Fund
7	**Environmental Education**				As an activity developed by the project for Deployment of Demonstration Units for the Restoration of Legal Reserve and Permanent Preservation Area in the Municipality of Brasil Novo – Pará, an Environmental Education Program was developed that discusses the water issue, urban waste, Brazilian environmental legislation and recovery of degraded areas, in addition to relying on the training of public teachers in environmental education, in a contextualized way.
8	**Development of sustainable productive activities with income generation and environmental quality**				The municipality of Brasil Novo has restoration projects with AFSs and PES for rural property owners who adopt maintenance and recovery practices in the Jauruçu river basin.
9	**Environmental monitoring**				The Municipality of Brasil Novo has worked on the identification of degraded areas through the analysis of licensing processes, where degraded areas are identified through georeferencing tools, carrying out the multi-temporal analysis of land use in each property. The information is confirmed during on-site visits and, if the liability is recognized, the area is delimited and the owners need to sign an Environmental Commitment Term – TCA, in which they undertake to regularize these areas environmentally.
10	**Restoration of degraded areas**				Through the Deployment of Demonstration Units for the Restoration of Permanent Preservation Areas project in the Municipality of Brasil Novo – Pará, there is a practice of recovery of degraded areas and dissemination with local producers who seek to recover their environmental liabilities.
11	**ATER to monitor rural producers**				Support in the maintenance of permanent crops and soil preparation for plantations. In 2021, more than 300 hectares benefited from mechanization.
12	**Environmental Education**				As an activity developed by the project for Deployment of Demonstration Units for the Restoration of Legal Reserve and Permanent Preservation Area in the Municipality of Brasil Novo – Pará, an Environmental Education Program was developed that discusses the water issue, urban waste, Brazilian environmental legislation and recovery of degraded areas, in addition to relying on the training of public teachers in environmental education, in a contextualized way.

	Actions	No	Partial	Effective	Situation Analysis
13	Supply of inputs for the recovery of degraded areas				The municipality of Brasil Novo has a nursery for seedlings of fruit, ornamental and timber species, which produced 130 thousand seedlings in 2021. The seedlings are distributed through the registration of the rural producer and can be made more than once a year.
14	Good practices and innovative actions				In order to promote the environmental regularization of the rural area of the Municipality of Brasil Novo, the Municipal Law that provides for fees was updated on May 25, 2021, establishing the exemption from the collection of fees for the license of rural

Although they have other sources of development and their own monitoring mechanisms, the government interventions developed in the municipality of Brasil Novo are similar to those carried out by the Amazon Fund in the North of Mato Grosso, which are the subject of this thematic evaluation. Some challenges are similar, such as bringing scale to the restoration of degraded areas, which in this case had a much smaller reach than the Amazon Fund projects. Another challenge is to ensure sustainable sources of financing for environmental activities.

5. MANAGEMENT AND MONITORING

The Amazon Fund has strict accountability procedures, which strive for transparency and good use of the resources of the financed projects. In the interviews, it was clear that the executors of larger-scale projects have less difficulty in dealing with project management and monitoring.

Still, it should be noted that the managers interviewed stated that they always obtained all the necessary support from the Amazon Fund team, both to prepare and submit the projects and in the process of monitoring, monitoring, need for adjustments at the time of implementation and accountability. For the implementation of the *Preserving Porto dos Gaúchos* project, as it was the first project that the Municipal Environment Secretariat implemented, this support and guidance were fundamental.

It should be remembered that even small municipalities have some administrative capacity, as they are used to dealing with transfers of public funds, ranging from agreements with the federal government, transfers of constitutional funds, to funds from parliamentary amendments.

For the set of projects evaluated, a technical team was provided for the implementation phase of the interventions. For the accountability phase, the structures already used by the municipal administrations for the other transfers of resources received by the municipalities were used.

It was also clear that the exchange of experiences between municipal managers was a factor in facilitating the elaboration and management of the projects. It is worth highlighting here the role that the municipality of Alta Floresta, based on the *Amazon's Water Springs – Phase II* project, played as a ref-

erence for other municipalities, as well as the component of forming learning communities among managers.

A management transparency strategy adopted by the Cotriguaçu technical team was to articulate an effective participation with the members of the Municipal Council for the Environment to become aware of all the stages and activities that the project was carrying out, as well as the involvement of environmental governance space in the discussions of changes and modifications that were necessary for a better implementation and fulfillment of the intervention goals.

A potential problem for the management of every municipal project, clearly detected in Marcelândia, is the discontinuity caused by political changes caused after the municipal elections. Thus, there is a break in the implementation process and the change of technical teams, generating a challenge for the execution of the projects

6. CONCLUSIONS

The plicy to combat deforestation set in motion by the Brazilian government in the mid-2000s by combining sanctions on offenders with positive incentives to combat deforestation. This is due to a long learning about the limitations of the exclusive command and control policies that had already been implemented in the country for many years. The Amazon Fund was created in accordance with this change and plays an important role in complementing the objectives of the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm).

This evaluation shows that the Amazon Fund's support to the municipal governments has been fundamental in allowing them to leave the list of priority municipalities created by the PPCDAm. On the other hand, it is clear that this type of support loses effectiveness as command and control actions cool down. This is clearly reflected in the fact that deforestation has risen again in the municipalities supported after the end of the projects.

Municipal governments in general show difficulty in continuing environmental policies, which still depend a lot on the protagonism of some actors who engage in the search for resources and partnerships. This lack of continuity is compounded by changes in federal policies. The shift seen in the policy to combat deforestation in Brazil since 2017 has in fact cooled down municipal actions to combat deforestation and land regularization.

Nevertheless, this evaluation shows that the degraded areas covered by Amazon Fund projects continue to recover, even in areas where deforestation has intensified. This may mean an acceptance of the intrinsic value of preserving permanent preservation areas (PPAs), at least those that protect water resources, by rural producers. It can also mean a fear of inspec-

tion actions, even though they have decreased.

In terms of the sustainability of the interventions, it was clear that the communities continue to maintain their active seedling nurseries, both for urban reforestation and to meet the demand from producers for seedlings to continue restoring their degraded PPAs. Obviously, in some municipalities, this reforestation is taking place on a very small scale due to the lack of funding sources, as the cost of producing seedlings is only part of the total cost of reforestation.

The strategy for consolidating the results achieved with the projects supported by the Amazon Fund was also identified. Based on the experience of the *New Paths in Cotriguaçu* project, a municipal program was implemented with its own funding aimed at the revitalization of lakes and springs. As such, the impact of a project that led to the creation of a municipal revitalization program is evident.

The political changes and the dependence that some municipalities have on external resources to implement environmental projects hinder the work of strengthening municipal environmental management. However, what was seen in the field was a significant increase in the number of qualified workers to be deployed in areas such as recovery of degraded areas, environmental licensing, geoprocessing, and land and environmental regularization. This is due both to a growing internalization of higher education from the mid-2000s onwards and also to the qualification offered to technicians and managers of municipal projects. Such qualification occurred directly, through specific learning and training in each project, and indirectly, through the Brazilian Institute of Municipal Administration (IBAM), which reached a much broader audience than that involved in the projects.

It was also evident that in the municipalities currently benefiting from the projects, the technical teams are formed by public servants, with the majority being public employees. Across all of these teams, the participation of women was identified both in administrative activities and in specialized technical activities. Currently, in three of the municipalities, the teams are led by women: Alta Floresta, Carlinda and Porto dos Gaúchos.

The political discontinuity in the municipalities means that the environment area sometimes has to compete for resources with other areas, particularly agriculture. But supporting sustainable activities can reconcile these areas,

which was clearly seen in those activities aimed at sustainable development, which had broad support within the scope of municipal governments and had partnerships with non-governmental organizations and Embrapa. These actions are also in harmony with broader policies, such as the ABC Plan – Low Carbon Agriculture, and new techniques developed and promoted by Embrapa and rural extension agencies. Livestock farming is a profitable and consolidated activity throughout the national territory, which makes small, medium and large landowners interested and support its promotion. This even means political support for broader environmental projects, as seen in Alta Floresta with the *Amazon's Water Springs project – Phase II*.

The promotion of activities linked to less consolidated chains than livestock is much more challenging. The direct use of biodiversity in the Amazon, for example, is something that was not seen in the projects evaluated. This, in part, is explained by the fact that this region, mostly colonized by southern mines, does not have a tradition of plant extractivism. The decision not to invest in these chains seems right, as it could cause frustration in the participants if they encounter no technical or marketing difficulties in their products, something that commonly occurs in this type of project.

The indirect use of biodiversity was seen in the Alta Floresta fish farming project, in which a hybrid species of fish native to the region is used. Although the product has a local market, it is difficult to scale up production. On the one hand, consumption is limited by the size of the local population and their income and, on the other hand, there are difficulties in sending production outside the municipality, given the long distance from other consumer markets and the absence of an ice facto-

ry in the municipality. Similar challenges are seen in the honey chains of native bees and organic outputs.

It is important to return to the OECD evaluation criteria in the final discussion of the data presented here. (Chart 5)

CHART 5: OECD Evaluation Criteria of supported municipal projects

Criteria	Result
Relevance	The focus on supporting municipal governments converges with the Amazon Fund's objectives. The strategy sought to strengthen municipal governments so that they can contribute to reducing deforestation through monitoring, environmental regularization of private properties and creating opportunities for sustainable economic use of natural resources. They were important tools for mobilizing farmers to join the CAR. Inclusion of environmental issues on the municipal agenda.
Efficiency	Although a cost/benefit analysis has not been carried out, the direct costs of recovery activities are below market prices. This is partly due to the fact that labor is at least partially funded by local governments.
Efficacy	The goals of recovery of degraded areas and environmental regularization were met. Only in one of the project for the deployment of demonstration units for the management of implemented pastures could it not reach the goal. Despite this result, it was possible to bring to the municipality new models of occupation of the property. The training for managers and technicians exceeded the planned goals. In some projects, there was a need to partner with local organizations to better implement project activities and thus improve the achievement of goals.
Effectiveness/ Impact	The projects leave a positive legacy, both by providing a direct service to many rural producers and by improving the provision of an environmental service (water production) that reaches a more diffuse population in urban regions. The removal of two municipalities (Alta Floresta and Porto dos Gaúchos) from the MMA's list of priority municipalities for deforestation monitoring and control actions; and Alta Floresta became a Green Municipality.
Sustainability	After the projects were completed, it can be seen that some progress was maintained. The municipal environmental secretariats keep their nurseries active and contribute, albeit on a smaller scale, to the recovery of degraded areas and urban afforestation. The projects also unfolded in environmental education actions that persist even after the end of the projects. The great challenge remains to provide the necessary sustainability and instability in reducing deforestation. There is no doubt that a broader action on several fronts is necessary, at various levels of public policy, so that, in fact, sustainability can be achieved in this issue.

7. LESSONS LEARNED AND RECOMMENDATIONS

7.1 Lessons Learned

Non-reimbursable intervention projects, such as those evaluated here, have high transaction costs, which include preparation and dissemination of calls for proposals, prior consultations, support for proposal preparation, evaluation of submissions, monitoring and evaluation. This makes scale of fundamental importance. In some cases, the transaction cost of the projects can significantly exceed the financed value. It is not surprising, therefore, that the largest project, developed in Alta Floresta, has been the one that presented the most results. In addition to the resources, the project benefited from its previous experience, consolidated partnerships with non-governmental organizations (NGOs) and educational and research institutions, and a relative abundance of skilled labor in the municipality.

As a counterpoint, we have the project of the municipality of Porto dos Gaúchos, which obtained remarkable results, even though it received the lowest value among the six projects evaluated. With this in mind, it is necessary to think about policies that scale the projects, but that do not exclude smaller and needier municipalities.

The strengthening of municipal secretariats is an important and desirable goal. However, the sustainability of this depends heavily on the political will of the mayors, especially in small municipalities. Regardless of the electoral changes that have taken place in the municipalities, the benefits of rehabilitating degraded areas remain and may increase over the years – a legacy that the projects will leave in the region.

The legacy of the projects seems to be linked to their continuity over time. Alta Floresta's experience shows the benefits of working with the same theme over two project cycles. In addition to keeping part of the team, Phase II of the *Amazon's Water Springs* project benefited from the lessons learned in Phase I, which were in the secretariat's institutional memory.

The recovery of degraded areas was an action common to four of the five municipal projects funded by the Amazon Fund evaluated, which proved to be successful and with impacts that were sustained even after the end of the projects. It is worth remembering that this activity is essential for the conservation of ecosystem services and for Brazil to meet its commitments made at the Climate Change Conference. Municipal governments have great dissemination in the territory and undoubtedly need to be considered essential actors to achieve the goal of recovering 12 million hectares of degraded areas. Given the scale of the challenge and the fact that this is a time-consuming, labor-intensive activity that requires the involvement of rural landowners, it would be important to fund long-term projects. In addition to allowing a greater scale of recovery and the monitoring of recovered areas, long-term projects would have their political continuity as a potential benefit. Planning activities and disbursements for periods longer than the term of office, even if there is a change of mayor, increases the chance of continuity of projects.

Projects focused on specific activities, such as the recovery of degraded areas, would also allow to focus on training efforts. The experience of the *Environmental Management Qualification Program (PQGA)* is very valuable and can be replicated in a directed manner. In-person and distance training, networking to exchange experiences and awards for good practices have proven to be very valuable learning tools for local management.

A positive example of this learning, in this case by demonstration effect, was the prioritization of springs in the recovery of degraded areas in the municipalities of Marcelândia, Carlinda and Cotriguaçu. This decision was inspired by the positive results of the first phase of the *Amazon's Water Springs* project. In addition to the first-hand knowledge of the Alta Floresta experience, all managers pointed to the Good Environmental Management Practices Award from the Brazilian Institute of Municipal Administration (IBAM) as a reference not only to the Alta Floresta project, but to other positive municipal experiences in the Amazon. In addition to being an effective tool for disseminating results, awarding awards represents a form of recognition to managers and the municipality's own population, which consequently gives legitimacy to projects in the environmental area.

Municipal projects have benefited from other state-scale and/or NGO-focused projects. For example, the cost of mapping was centralized and the benefits shared with several communities in the region. The projects of Carlinda, Alta Floresta and Marcelândia benefited directly from the work of the Instituto Centro de Vida (ICV) in the north of Mato Grosso. Among other actions, the environmental liabilities of the region were mapped, which allowed the planning of interventions in degraded areas. Greater coordination between municipal and NGO support lines would therefore be useful to replicate successful experiences such as this one. Similarly, the support given to the state environment secretariats could be aligned with the support to the municipalities.

7.2 Recommendations

Recommendation	Donors	Amazon Fund	Federal Gov.	State Gov.	Municipal Gov.	NGOs
Reactivate the PPCDAm and review the criteria for inclusion, maintenance and exclusion of municipalities from the Priority List.			■			
Increase the time horizon of projects, particularly for those involving recovery of degraded areas	■	■				
Scale projects and include objective and measurable components such as hectares of recovered areas, number of demonstration units, etc.	■	■	■			
Promote studies on the formation of intermunicipal consortia in order to know the advantages and, mainly, the challenges to organize this type of arrangement.		■				
Align the guidelines of new notices with state environmental regularization policies, combating deforestation and recovering environmental liabilities.		■	■	■		
Enhance synergies between projects to support different actors through specific public notices	■	■	■			
Give visibility to good municipal practices to encourage municipal managers to invest in these policies. Create awards and forums for discussion and dissemination of results		■	■	■		■
Continue actions to recover degraded areas and promote the exchange of experiences through specific publications, online platforms and technical visits		■	■	■	■	
Intensify the decentralization of environmental licensing as a way to strengthen local management			■	■	■	
Include gender and inequality components already in the design of the proposals, using indicators to monitor progress		■				
Create a continuous qualification process for technicians and public managers in the environmental area			■	■	■	■

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APPENDIX 1

CANCUN SAFEGUARDS (REDD+) AND TRANSVERSAL CRITERIA

Cancun Safeguards (REDD+)

Safeguard	Complies	Note
1. Actions complementary to or consistent with the objectives of national forestry programs and other relevant international conventions and agreements		
Are the projects aligned with the PPCDAm and the state plans for deforestation prevention and control?	YES	It is in line with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm) because the set of municipalities were included in the priority list of the Ministry of the Environment of those most deforested in the country.
To which other federal public policies or international agreements have the projects demonstrated alignment? In which aspects?	YES	It is aligned with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm), as the municipalities were included in the list of the most deforested in the country.
Did the project contribute or have the potential to contribute directly or indirectly to reducing emissions from deforestation and forest degradation? In what way?	YES	The results show that it was possible to contribute to strategies that supported the reduction of deforestation during the implementation period and a few moments after its completion. Part of the projects supported had actions focused on the recovery of degraded areas.
2. Transparent and effective national forest governance structures, with a view to national sovereignty and national legislation		
To what extent have the projects promoted articulation between various actors (public sector, private sector, third sector or local communities)? Were shared governance bodies used? Which ones?	IN PART	For the set of projects, the main articulation was with the decentralization programs of the State Environment Secretariat of Mato Grosso. More specific strategies for articulation with federal government agencies were identified, such as research institutions and universities in some of the projects. There were also articulations with non-governmental organizations that work in the areas of project implementation.
To what extent have the projects contributed to strengthening public instruments and forest and land-use planning processes?	NOT APPLICABLE	

Safeguard	Complies	Note
3. Respect for the knowledge and rights of indigenous peoples and members of local communities, considering relevant international obligations, national circumstances and laws and noting that the UN General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples		
To what extent have the projects influenced the constitutional rights associated with the possession and formal destination of land in its area of operation?	NOT APPLICABLE	
To what extent have the projects influenced the sustainable use of natural resources in their area of activity?	YES	Projects that had actions focused on recovering PPAs with a focus on springs directly influenced the use of natural resources
If the projects had indigenous peoples, traditional communities or family farmers as direct beneficiaries: were their socio-cultural systems and traditional knowledge considered and respected throughout the projects?	YES (partial)	In some projects, family farmers were the beneficiaries, and their socio-cultural systems and traditional knowledge were considered and respected.
Are there effects that interfere with the traditional way of life of these groups? What kind of effects: on social, economic organization or the use of available spaces and resources? How do they interfere: positively, negatively, or both?	NOT APPLICABLE	
4. Full and effective participation of stakeholders, in particular indigenous peoples and local communities, in the actions referred to in paragraphs 70 and 72 of Decision 1/CP 16		
How did projects ensure the prior consent and local/traditional selection of representatives of their beneficiaries (especially indigenous peoples and traditional communities)?	NOT APPLICABLE	
What participatory planning and management tools did the projects apply during planning and decision making?	NOT APPLICABLE	
In case of projects with economic purposes: were any benefits arising from the projects accessed in a fair, transparent and equitable manner by the beneficiaries, avoiding a concentration of resources?	NOT APPLICABLE	
To what extent have the projects provided the general public and their beneficiaries with free access and easy understanding to information related to project actions?	IN PART	In relation to the set of projects, only two (Amazon's Water Springs – Phase II and New Paths in Cotriguaçu) used these communication and transparency strategies more effectively. The Amazon's Water Springs - Phase II project even included the creation of a communication plan as one of its actions.

(Continued)

(Continued)

Safeguard	Complies	Note
Were the projects able to put together a good system for monitoring results and impacts? Did the projects systematically monitor and disseminate the results achieved and their effects?	NO (partial)	Monitoring is still a challenge forinterventions by municipal governments. Regarding the dissemination of the results, two experiences were identified: the Amazon's Water Springs – Phase II project, which created an electronic website, in which its main results were disclosed; and the New Paths in Cotriguaçu Project, which, in addition to the creation of an electronic website, carried out a set of activities to disseminate the results with the Municipal Council of the Environment.
5. Actions consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70 Decision 1/CP 16[10] are not used for the conversion of natural forests, but rather to encourage the protection and conservation of natural forests and their ecosystem services and to enhance other social and environmental benefits		
How did the projects contribute to the expansion or consolidation of protected areas?	NOT APPLICABLE	
How did they contribute to the recovery of deforested or degraded areas?	YES	A total of 5,414.15 hectares were recovered from the spring recovery strategies.
In the case of restoration and reforestation activities, did the methodologies used prioritize native species?	YES	In all projects that had the restoration and reforestation component included, the species used were native
To what extent did the projects contribute to establishing recovery models with an emphasis on economic use?	PARTIA-LLY	There are species with great potential for economic uses, but this type of discussion between project managers and beneficiaries has not been identified. There is still no market work for these recovered areas.
6. Actions to address the risks of reversals in REDD+ results		
What factors pose risks to the permanence of REDD+ results? How did the projects approach them?	NOT APPLICABLE	
7. Actions to reduce the displacement of carbon emissions to other areas		
Was there a displacement of emissions avoided by project actions to other areas?	NOT APPLICABLE	

10 Decision 1/CP 16: Reduction of emissions from deforestation; reduction of emissions from forest degradation; conservation of forest carbon stocks; sustainable forest management and increase of carbon stocks

Transversal criteria

Transversal Criteria	Complies	Note
Poverty Reduction		
To what extent have the projects contributed effectively to economic alternatives that value standing forest and sustainable use of natural resources?	IN PART	In the projects where actions focused on the conservation of springs, it was evident that the springs conserved in these interventions not only ensured the water supply in the urban environment, but also the watering of cattle on the property.
To what extent have the projects positively influenced poverty reduction, social inclusion and improvement in the living conditions of beneficiaries living in their area of activity?	IN PART	In projects that had as a direct effect the implementation of chains of agroforestry and biodiversity products with added and expanded value, this was very evident. See item 4.2.2.
Were the projects able to promote and increase the production in value chains of timber and non-timber forest products, originated in sustainable management?	NO	The results show that it was possible to contribute to strategies that supported the reduction of deforestation during the implementation period and a few moments after its completion. Part of the projects supported had actions focused on the recovery of degraded areas.
Gender equity		
The project has had some overall results and impacts on gender issues.	IN PART	In the projects that had as a direct effect the implementation of chains of agroforestry and biodiversity products with added and expanded value, a participation of women in the activities was identified, including some as good experiences of product marketing. It was possible to identify the participation of women in all the teams of the municipal secretariats. In addition, in three of the municipalities (Alta Floresta, Carlinda and Porto dos Gaúchos) the secretariats are headed by women. It was noted that in three of the municipalities where the projects were implemented, women are the holders of their municipal environmental secretariats. In all municipal secretariats of the environment, a significant number of women were identified in the technical teams
How did the project contribute to gender equity?	NOT APPLI-CABLE	
Articulation of Public Policies		
Was it possible to articulate the project with public policies of territorial and state scope?	IN PART	Based on the projects, some municipalities have been able to have decentralized through the SEMA-MT for the implementation of actions and environmental policies in the municipality.
Food and Nutrition Security		
Did the project contribute to the nutritional food security of the beneficiaries?	NOT APPLI-CABLE	
Was the project able to include beneficiaries into food and nutrition security policies and programs?	NOT APPLI-CABLE	

Evaluation 1

Buriti Springs

Organization responsible: City Hall of Carlinda	**Project period:** 2011 to 2020
Territorial scope: Municipality of Carlinda	**Beneficiaries:** Local population
Total project value: R$ 1.875.500,94	**Value of support from the Amazon Fund:** 100% of the total

Objective: Support the strengthening of municipal environmental management through the physical structuring of the Municipal Environment and Tourism Secretariat, and support the recovery of 1,722 hectares of permanent preservation areas (PPAs) around springs.

Source: Form prepared from the adaptation of information from the website of the Amazon Fund/BNDES

1. PROJECT SUMMARY

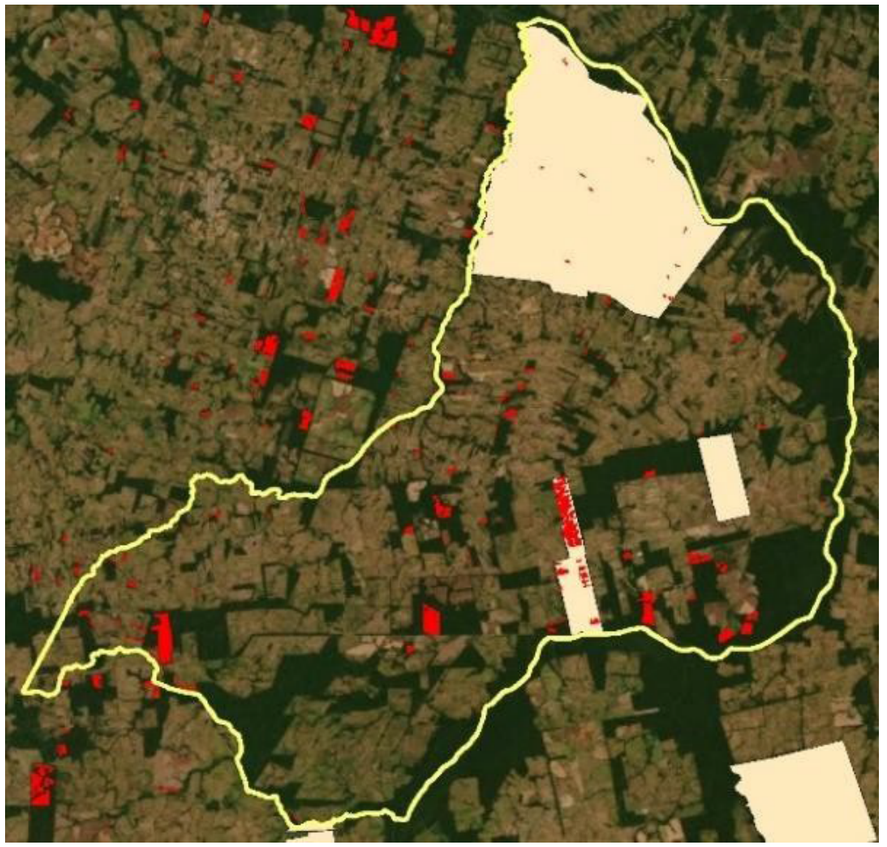
The Buriti Springs project covered the entire municipality of Carlinda, which has an area of 2,410 km2. It is part of the set of projects focused on supporting municipalities that have in common a high rate of deforestation and are located in the region known as "Areas under intense pressure for deforestation"[11].

The project is one of the first initiatives of the Municipal Secretary of Environment and Tourism of Carlinda, which was created in December 2009. Its creation came as a response from the Municipality of Carlinda – MT, when in 2008, the Municipality was put on the list of the most deforested in the Brazilian Amazon by the Ministry of the Environment. (Figure I)

11 Terms of Reference.

Thus, the intervention supported by the Amazon Fund sought to provide a set of instruments to support actions and projects for environmental management with a focus on combating deforestation. With this, the project provided the physical and operational structuring of the Municipal Secretariat of Environment and Tourism of Carlinda, from the acquisition of goods and equipment such as vehicle, computer material and technology.

Figure I: Occupation and land use in Carlinda.



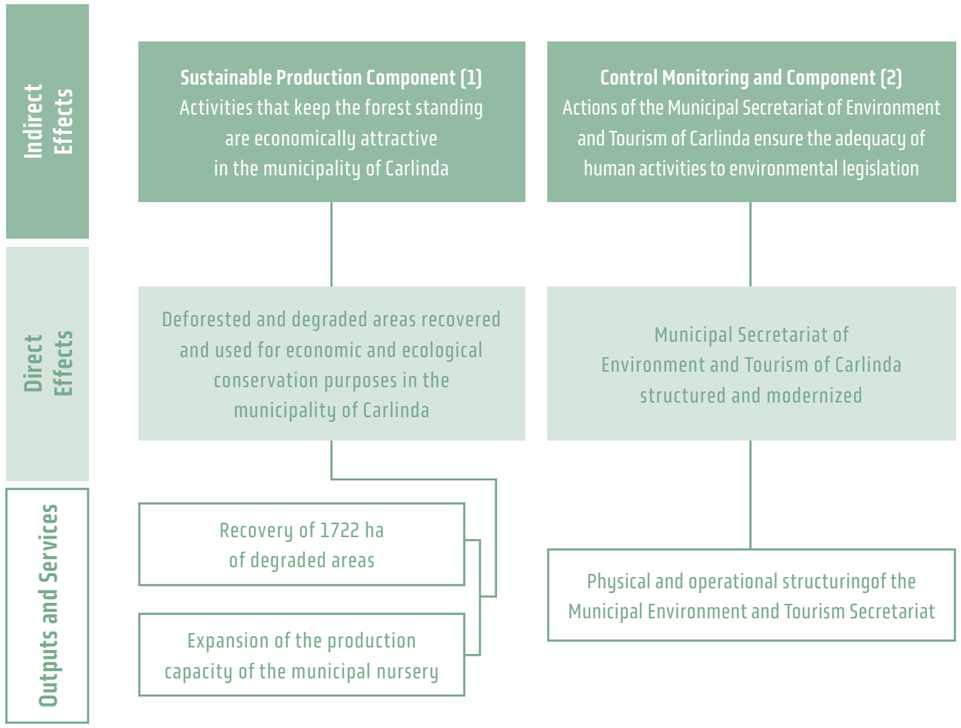
In red, the deforestation area, in yellow, agricultural settlements.

Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon – (2022)

2. INTERVENTION LOGIC

In the Amazon Fund's Logical Framework (Figure II), the Buriti Springs project is included in the Sustainable Production (1) and Monitoring and Control (2) components.

Figure II: : Logical Framework Objectives Diagram of the Buriti Springs Project



Source: Consultants' own elaboration based on the Amazon Fund/BNDES

3. METHODOLOGY

The entire methodological process used in this effectiveness evaluation of the *Buriti Springs* project includes the criteria already described in item 3 of the main report of this thematic evaluation (Applied Methodology), based on the criteria of the Organization for Economic Cooperation and Development (OECD). The OECD's definition of these criteria is intended to support consistent and high-quality evaluation by providing a normative framework for determining the merit or value of an intervention, be it a public policy, strategy, program or project[12].

A field mission was carried out to the municipality of Carlinda, at which time interviews were carried out with the technical team responsible for the preparation and implementation of the project in 2011, as well as with the current head of the Municipal Secretariat of Agriculture, Livestock, Industry, Commerce, Environment and Tourism and its team. At this stage, visits were also made to some properties covered by the project, the headquarters of the Secretariat and the municipal nursery.

In addition to the Carlinda Secretariat team, an interview was also conducted with the technician responsible for monitoring and monitoring the project with the Brazilian Development Bank (BNDES).

To assess deforestation in the implementation area of the project, analyses were carried out based on PRODES data. The secondary and documentary data of the *Buriti Springs* project, which can be found the information database of the Amazon Fund/BNDES, were also used as a methodological element.

12 OECD (2021). Applying Evaluation Criteria Thoughtfully. In OECD Publishing (Ed.), Applying Evaluation Criteria Thoughtfully. https://doi.org/10.1787/543e84ed-en

4. EVALUATION OF RESULTS

4.1. Indirect Effect: Sustainable Production Component (1): Activities that keep the forest standing are economically attractive in the municipality of Carlinda

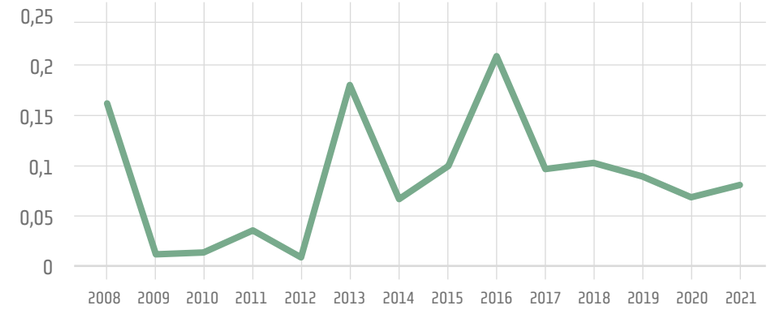
The municipality of Carlinda, which has an area of 2,422 km2, was developed from a settlement project of the National Institute of Colonization and Agrarian Reform (INCRA), in the territory that then belonged to Alta Floresta. More than 70% of the territory has already been deforested, most of it before the start of the Buriti Springs project.

The reason for the Amazon Fund's financing of the Buriti Springs project was the high rate of deforestation of the municipal territory and the consequent risks to the city's water supply. At the time of the preparation of the project, the Municipal Secretariat of Environment and Tourism (currently, the Municipal Secretariat of Agriculture, Livestock, Industry, Commerce, Environment and Tourism) was in a very precarious situation, without its own room and work vehicles.

This support is justified because it is fully in line with the Amazon Fund's main objective, which is the reduction of deforestation with sustainable development in the Brazilian Amazon.

After a sharp decline between 2004 and 2012, deforestation in the Amazon has begun to show a growing trend, breaking consecutive records since 2019[13]. Deforestation has risen in a vertical curve,indicating a total lack of control. All units of the federation had deforestation alerts detected in 2021, and the state of Mato Grosso is currently in third place in the national ranking, with 11.47% of the deforested area[14]. The state also appears in third place in the ranking of cheeses in the Amazon between January and August 2022. Carlinda, however, disagrees with this trend. Deforestation rates fell slightly between 2017 and 2021. The graph in Figure III shows the deforestation trend in the municipality.

Figure III: Deforestation data (in km²) for the municipality of Carlinda (MT) between 2008 and 2021



Source: Analysis of the evolution of deforestation in areas of projects to support municipalities in the Amazon – (2022).

Table I shows Carlinda's deforestation data, which were aggregated in three periods: before the project (baseline), during the execution of the project (2011–2017) and post-project (2018–2022).

Table I: Deforestation in Carlinda before, during and after the execution of the Buriti Springs project

	Area (km²)	Baseline (2008-2010)	During the Projects (2011 - 2020)	Post-Project (2021-2022)	Total
Carlinda	2.421,79	1,48	2,28	1,25	2,13

13 GARDOUR, C. Políticas Públicas para Proteção da Floresta Amazônica: O que funciona e como melhorar. Amazônia 2030. Climate Policy Initiative – PUC Rio: Rio de Janeiro. 2021

14 AZEVEDO, et al. (2022). RAD 2021: Relatório Anual do Desmatamento no Brasil 2021. São Paulo: MAPBIOMAS Alerta. 2022

4.2. Indirect Effect: Monitoring and Control Component (2): Actions of the Municipal Secretariat of Environment and Tourism of Carlinda ensure the adequacy of human activities to environmental legislation

Table I describes the current situation in the municipality in relation to the Rural Environmental Registry (CAR). It is important to note that most have not yet been evaluated by government institutions. Despite this, the project was successful in carrying out the CAR of almost 90% of the municipal territory. With the advance of the CAR, it is possible to analyze each property and identify the causes of deforestation as well as the possible responsible for it.

Table I: Deforestation in Carlinda before, during and after the execution of the Buriti Springs project

State	Municipality	Municipal area (km²)	Number of CARs	Total Area (km²)	Difference in Areas (km²)
MT	Carlinda	2,422	2038	2143,43	278,36

Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon – (2022)

4.3. Direct Effects

The municipal nursery that was expanded and revitalized with the Amazon Fund's resources remains active and maintained with an annual budget of R$30,000.00, from the Agriculture heading. The current production is 30 thousand seedlings per year, well below what was achieved during the project execution period – 200,000 seedlings per year. However, this small investment allows the infrastructure to be maintained. Much of the material used in production – trays and tubes – was also acquired as part of the *Buriti Springs* project.

A second important aspect of the nursery is that it is widely used by the city in environmental education actions. All of the students from Carlinda's public schools have already visited the nursery, which also receives higher education students from neighboring cities.

It is important to highlight that the project was, in part, inspired by the experience of the *Amazon's Water Springs* project, developed in the neighboring municipality of Alta Floresta and financed by the Amazon Fund. Carlinda's technical team visited the municipality and received guidance from Alta Floresta technicians. However, Carlinda has adopted different methods and techniques for recovering degraded areas and producing seedlings. The decision was made to plant seedlings. Before going into the field, the farmers sowed legumes between the grass thickets that were not eradicated by hand. This maintained the soil cover to prevent further degradation. The seedlings were then planted and grew as the legumes smothered and killed the grass.

25 species were used in the project. Typically, farmers received on their property or searched for boxes containing 20 assorted seedlings, with pioneer, secondary and climax species, already outside the tubes, which were reused. The planting areas were isolated with certificates supported (50%) by the project.

The recovery reached an area of 1,912.50 hectares, exceeding the original project target of 1,722 hectares. According to municipal managers, the shortage of water in the basins that supply the urban area of Carlinda, a problem that motivated the elaboration of the project, has not been felt since the completion of the project.

Carlinda's experience was recognized with an honorable mention in the Good Practices of Environmental Management Award promoted by the Brazilian Institute of Municipal Administration (IBAM) in 2015, also with the Amazon Fund's resources.

As the Secretariat's own team points out, a deficiency of the project was not having created capacity in the area of environmental monitoring. According to the person responsible for preparing the project, "every project financed by the Amazon Fund should have a geoprocessing technician". This deficiency is partially covered by a partnership with the Instituto Centro de Vida (ICV), an NGO that is assisting the Secretariat in the establishment of 300 CARS in the municipality. It was also the ICV that made the diagnostic of the degraded areas of Carlinda, the basis of the proposal sent to the Amazon Fund.

The other result of the project was the modernization of the Municipal Secretariat of Environment and Tourism of Carlinda.

Municipal Policies and Budget

In the 2021 Annual Budget Law, the current Municipal Secretariat for Agriculture, Livestock, Industry, Commerce and the Environment foresees expenses of R$1,459,000.00, distributed in Environment, Agriculture and Tourism activities and in the maintenance of the Secretariat, which includes salaries and expenses of its public servants. Table II presents the quantitative distribution of resources, making clear the importance of actions aimed at agriculture, as well as the marginal role reserved for tourism.

Table II: Carlinda Municipal Budget for 2022

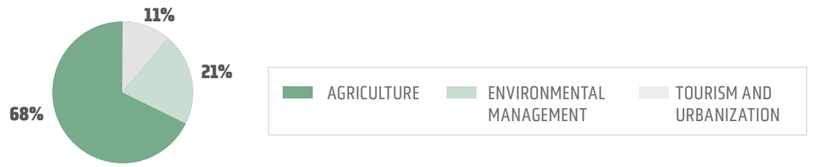
Management Unit	Value R$	Proportion
City Hall	1.261.000,00	2,63%
Mayor's Office	967.000,00	2,02%
Administration Secretariat	1.943.000,00	4,05%
Finance Secretariat	1.578.650,00	3,29%
Social Assistance Secretariat	1.955.000,00	4,08%
Education, Culture, Sports and Leisure Secretariat.	14.329.000,00	29,88%
Health Secretariat	10.520.000,00	21,94%
Urban Works and Services Secretariat	9.692.970,00	20,21%
Agric., Fish., Ind., Com., Environment and Tourism Secretariat	1.459.000,00	3,04%
City Secretariat	229.000,00	0,48%
Contingency Reserve	69.380,00	0,14%
TOTAL	44.004.000,0	91,77%
Municipal Social Security	3.946.000,00	8,23%
GRAND TOTAL	47.950.000,00	100,00%

Source: Lei Municipal nº. 1302/2021

The total budget of the Secretariat corresponds to just over 3% of the annual budget of the municipality. This lack of resources is compounded by the fact that the Secretariat has, at least in theory, many attributions. A closer analysis of its budget reveals, however, that budget efforts focus on a few areas, particularly agriculture and the environment (Figure IV). The description of the actions in the 2021 Annual Budget Law (LOA) makes it clear that the activities listed as Tourism actually concern the maintenance of gardens and urban afforestation.

Although the Secretariat has so many responsibilities, the environmental area has two technicians, computer equipment and an exclusive use room.

Figure IV: Details of the budget of the Municipal Secretariat of Agriculture, Livestock, Industry, Commerce, Environment and Tourism of Carlinda



Source: Prepared by the consultants based on the 2021 LOA of Carlinda-MT

5. MANAGEMENT AND MONITORING

The project team had no difficulties with the management and accountability of project activities. In the interviews, it was clear that BNDES was very close to the team during the preparation phase and throughout the execution of the project. ICV was another important partner in these stages and provided the then Municipal Secretariat of Environment and Tourism with analysis of satellite images, used both in the planning and monitoring of activities. In both the technical and managerial aspects of the program, Carlinda's team benefited from the experience of the neighboring municipality of Alta Floresta, which already had previous experience with the Amazon Fund and whose project, *Amazon's Water Springs*, served as inspiration for the *Buriti Springs project*.

6. CONCLUSION

The objectives of the *Buriti Springs* project were as follows: (1) strengthen municipal environmental management, based on the physical and operational structuring of the Municipal Environment and Tourism Secretariat; and (2) Recover 1,722 hectares of degraded areas.

At the end of the project, the Secretariat had a better structure than the one it had at the beginning of the activities. And that remains the case today. It is worth noting, however, that there has been no evolution in terms of human resources. Even today, the Ministry has two techniques that worked there before and during the execution of the *Buriti Springs* project. If on the one hand there was a continuity of the project, which went through three municipal administrations, there has never been a political determination to move towards acquiring new skills and responsibilities. The best example of this is that Carlinda does not participate in the decentralization program of the license environmental project promoted by the State Environment Secretariat of Mato Grosso (SEMA/MT).

One of the direct impacts of the project is the boost that the nursery has given to environmental education activities. The control of deforestation and the mapping of environmental liabilities by the CAR have created a constant concern among rural producers for the recovery of degraded areas in the community. The permanence of the nursery activities, even if it does not satisfy the demand for seedlings, keeps alive the idea that it is necessary and possible to recover degraded areas, albeit slowly.

According to the criteria recommended by the OECD, the evaluation results of the *Buriti Springs* project are presented in Chart I.

CHART I: OECD Evaluative Criteria for the Buriti Springs project

Criteria	Results
Relevance	The Buriti Springs project was extremely relevant to the municipality. It arises due to the frequent water supply crises in the urban environment of the municipality. The motivation for supporting this project is still valid today, as the city continues to produce and donate seedlings of native species to restore degraded areas, even without project funds.
Efficiency	It was a low-cost project that, as it was implemented, created capacity for seedling production and recovery of degraded areas using locally developed technology.
Efficacy	The project exceeded the goals for the recovery of degraded areas initially established. The areas remain isolated and the floristic enrichment of the surroundings of the springs is perceived.
Impact	Mainly through the recoveries of PPAs, the water supply of the urban area of Carlinda has stabilized at a safe level for the population.
Sustainability	The structuring of the Secretariat is one of the lasting benefits. In addition to the building in good condition and the vehicle still in operation, the municipal nursery is still in excellent operating condition and served rural producers, who continue to recover their areas on their own account. The Secretariat also assist this public through guidance and technical visits to the properties.

7. RECOMMENDATIONS

	Recommendation	Executors	States	Amazon Fund	Federal Gov.	Municipal Gov.	Donors
Direct effect	Adhere to the state environmental licensing decentralization program					■	
	That the municipal management could create a technical career focused on environmental policy within the administrative structure.					■	
	That municipalities could trans-form their projects and programs into public policies and thereby avoid discontinuity processes when governments change.					■	
Resumption of the actions of the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm)					■		

8. CANCUN SAFEGUARDS (REDD+)

Safeguard	Complies	Note
1. Actions complementary to or consistent with the objectives of national forestry programs and other relevant international conventions and agreements	NOT APPLICABLE	
Are the projects aligned with the PPCDAm and the state plans for deforestation prevention and control?	YES	It is in line with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm). Although the municipality was not included in the list of the most deforested in the country, participation in the project required the presentation of the CAR by the owners. The municipality has made great progress towards environmental regularization.
To which other federal public policies or international agreements have the projects demonstrated alignment? In which aspects?	YES	It is in line with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm). It has an environmental services valuation component. It is in line with the Brazilian Forest Code, especially with regard to Permanent Preservation Areas (PPA).
Did the project contribute or have the potential to contribute directly or indirectly to reducing emissions from deforestation and forest degradation? In what way?	YES	For the recovery of degraded areas.
2. Transparent and effective national forest governance structures, with a view to national sovereignty and national legislation		
To what extent have the projects promoted articulation between various actors (public sector, private sector, third sector or local communities)? Were shared governance bodies used? Which ones?	IN PART	Indirectly, the project contributed to a greater integration between municipal managers and SEMA/ MT technicians for environmental monitoring and CAR implementation. From before the project until the present moment, the Municipal Secretariat of Environment and Tourism has worked in close collaboration with the NGO ICV.
To what extent have the projects contributed to strengthening public instruments and forest and land-use planning processes?	NOT APPLICABLE	
3. . Respect for the knowledge and rights of indigenous peoples and members of local communities, considering relevant international obligations, national circumstances and laws and noting that the UN General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples		
To what extent have the projects influenced the constitutional rights associated with the possession and formal destination of land in its area of operation?	NOT APPLICABLE	
To what extent have the projects influenced the sustainable use of nat-ural resources in their area of activity?	YES	Directly, through the recovery of springs from the city's main supply basin and, indirectly, through the disseminaxtion of results and the dissemination of water conservation benefits.
If the projects had indigenous peoples, traditional communities or family farmers as direct beneficiaries: were their socio-cultural systems and traditional knowledge considered and respected throughout the projects?	NOT APPLICABLE	
Are there effects that interfere with the tradi-tional way of life of these groups? What kind of effects: on social, economic organization or the use of available spaces and resources? How do they interfere: positively, negatively, or both?	NOT APPLICABLE	
4. Full and effective participation of stakeholders, in particular indigenous peoples and local communities, in the actions referred to in paragraphs 70 and 72 of Decision 1/CP 16		
How did the projects ensure the prior consent and the local/traditional way of choosing the representatives of their beneficiaries (especially indigenous peoples and traditional communities)?	NOT APPLICABLE	
What participatory planning and management tools did the projects apply during planning and decision making?	NOT APPLICABLE	

(Continua)

(Continued)

Safeguard	Complies	Note
In case of projects with economic purposes: were any benefits arising from the projects accessed in a fair, transparent and equitable manner by the beneficiaries, avoiding a concentration of resources?	NOT APPLICABLE	
To what extent have the projects provided the general public and their beneficiaries with free access and easy understanding to information related to project actions?	YES	All information was published on the project website and in printed material produced by the Secretariat.
Were the projects able to put together a good system for monitoring results and impacts? Did the projects systematically monitor and disseminate the results achieved and their effects?	NO	The municipality does not have its own capacity for monitoring, either by analog or digital means (media).
5. Actions consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70, Decision 1/CP 1615[15] are not used for the conversion of natural forests, but rather to encourage the protection and conservation of natural forests and their ecosystem services and to enhance other social and environmental benefits		
How did the projects contribute to the expansion or consolidation of protected areas?	NOT APPLICABLE	The municipality does not have protected areas in its territory
How did they contribute to the recovery of deforested or degraded areas?	YES	Effective recovery of 1,912.5 hectares of PPA.
In the case of restoration and reforestation activities, did the methodologies used prioritize native species?	YES	The perennial species used are all native.
To what extent did the projects contribute to establishing recovery models with an emphasis on economic use?	IN PART	There are species with potential economic uses, but this has not been discussed with the beneficiaries of the project. There is no perception of legal certainty for the exploration of these areas.
6. Actions to address the risks of reversals in REDD+ results		
What factors pose risks to the permanence of REDD+ results? How did the projects approach them?	NOT APPLICABLE	
7. Actions to reduce the displacement of carbon emissions to other areas		
Was there a shift of emissions avoided by project actions to other areas?	NOT APPLICABLE	

15 Decision 1/CP 16: Reduction of emissions from deforestation; reduction of emissions from forest degradation; conservation of forest carbon stocks; sustainable forest management and increase of carbon stocks

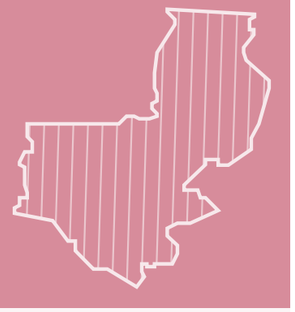
9. TRANSVERSAL CRITERIA

Transversal Criteria	Complies	Note
Poverty Reduction		
To what extent have the projects contributed effectively to economic alternatives that value standing forest and sustainable use of natural resources?	IN PART	By making producers aware of the fact that protected springs not only provide water for the urban environment, but also for livestock on the property.
To what extent have the projects positively influenced poverty reduction, social inclusion and improvement in the living conditions of beneficiaries living in their area of activity?	NOT APPLICABLE	
The projects have been able to promote and increase the production in the value chains of both timber and non-timber forest products, sourced from sustainable management?	NOT APPLICABLE	
Gender equity		
The project has had some overall results and impacts on gender issues.	NOT APPLICABLE	
How did the project contribute to gender equity?	NOT APPLICABLE	
Articulation of Public Policies		
Was it possible to articulate the project with public policies of territorial and state scope ?	IN PART	For carrying out the CAR.
Segurança Alimentar e Nutricional		
Did the project contribute to the nutritional food security of the beneficiaries?	NOT APPLICABLE	
Was the project able to include beneficiaries into food and nutrition security policies and programs?	NOT APPLICABLE	

Evaluation 2

Amazon Water Springs – Phase II

Organization responsible: City Hall of Alta Floresta	**Project period:** 2013 to 2018
Territorial scope: Municipality Alta Floresta	**Beneficiaries:** Local population
Total project value: R$ 7.146.563,54	**Value of support from the Amazon Fund:** 100% of the total



Objective: Support the recovery of degraded areas and the development of sustainable productive activities with a view to the environmental regularization of rural family farming properties in the municipality of Alta Floresta.

Source: Form prepared from the adaptation of information from the website of the Amazon Fund/BNDES

1. BACKGROUND

Located in the north of Mato Grosso, at the end of the 2010s the main rural economic activities of the municipality of Alta Floresta were beef and dairy cattle (about 500 thousand heads), sugarcane plantations and timber extraction. Because it has a large amount of natural resources in its territory, having land without destination, having a large road network and being located far from large urban centers, Alta Floresta suffered an intense illegal exploitation of natural resources, which, consequently, caused a high rate of irregular deforestation.

In 2008, due to the high rates of deforestation, the municipality was included by the Ministry of the Environment (MMA) in the list of priority municipalities for deforestation monitoring and control actions. Livestock and logging were the main vectors of dismantling in the municipality. Only 4,000 of the approximately 8,000 springs remained in 2010, and in 2012, the deforested area of Alta Floresta represented 54% of its total area. Among these areas, according to data from Municipal Environment Secretariat of Alta Floresta, permanent preservation areas (PPA) were the most threatened.

The Alta Floresta Municipal Environmental Secretariat and the Permanent Preservation Areas (APP) were the most threatened.

In this context, the *Amazon's Water Springs* – Phase II project received support from the Amazon Fund between 2013 and 2018, with the Municipality of Alta Floresta, through its Municipal Environment Secretariat (SECMA), being responsible for its execution. Throughout its execution, the project received the total value of R$7,145,563.54 and its target audience was rural producers, livestock farmers and family farmers.

The project's intervention logic was based on two of the four components of the Amazon Fund, namely: Sustainable Production (1), activities that keep the forest standing are economically attractive; and Monitoring and Monitoring (2), with adaptation of economic activities to environmental legislation.

Thus, the *Amazon's Water Springs* – Phase II project intended to contribute to reducing deforestation and adapting the municipality to the environmental legalization process in search of more sustainable development. The success of the Municipality of Alta Floresta in containing deforestation and carrying out the Rural Environmental Registry (CAR) of rural properties, with the decisive the Amazon Fund's support, made the municipality the first to leave the list of priority municipalities.

Without the emergency appeal of the need to contain the destruction, but based on the success of the project, the municipality presented a new proposal to the Amazon Fund. The economic context of the municipality was undergoing rapid change. The cattle herd was stabilized and the soybean crop arrived in the municipality with considerable strength. The IBGE recorded the beginning of local production in 2016, when 100 tons of the grain were harvested. In 2020, production exceeded 100,000 tons.[16]

16 Check it out at: https://cidades.ibge.gov.br/brasil/mt/alta-floresta/pesquisa/14/0?ano=2021

2. PROJECT SUMMARY

The main guiding principle of the *Amazon's Water Springs – Phase II* project was to promote water conservation. This was done through the recovery of 3,317 hectares of springs and streams. As part of this objective, the project proposed to work on the rectification of the CAR of the properties where recovery would occur, in addition to offering the georeferencing service to another 760 producers who sought to register in the Rural Environmental Registration System of the state of Mato Grosso.

Still focusing on the promotion of water conservation, a program – Water Guardians – was created to pay for environmental services (PAS) to 72 families of ruinous producers who maintain permanent preservation areas (PPA) in the water catchment areas for the city.

A second area of the project aimed to increase productivity and livestock with the adoption of good practices. This was done through technical assistance to 103 families and the maintenance of four demonstration units that had been installed in the first phase of the project.

Finally, as the third area of the project, there was support for productive chains, with emphasis on:

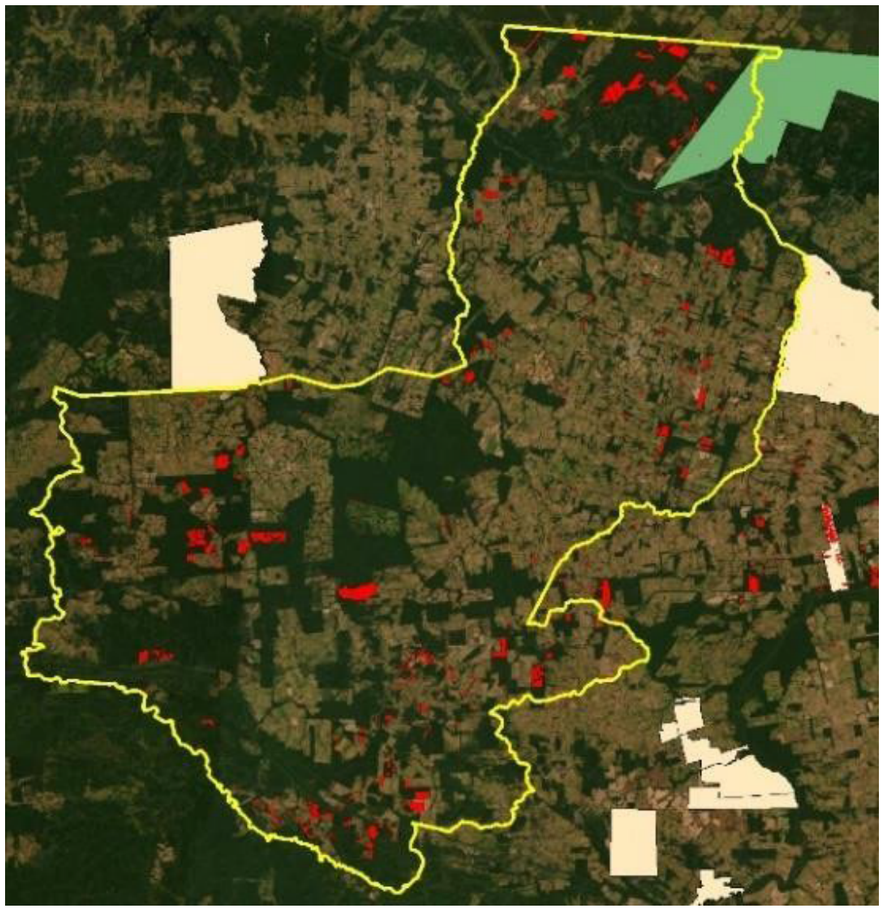
- fish farming: the City Hall built 89 tanks and provided technical assistance to producers;

- beekeeping: a municipal apiary was created, in which bees are reproduced and donated to rural producers. During the project, 300 boxes were distributed;

- horticulture: creation and support of 20 organic production units.

Figure I it is possible to verify the land use and occupancy in Alta Flores consigning the areas of deforestation, agricultural settlements and conservation units (CUs).

Figure I: Land occupation and use in Alta Floresta



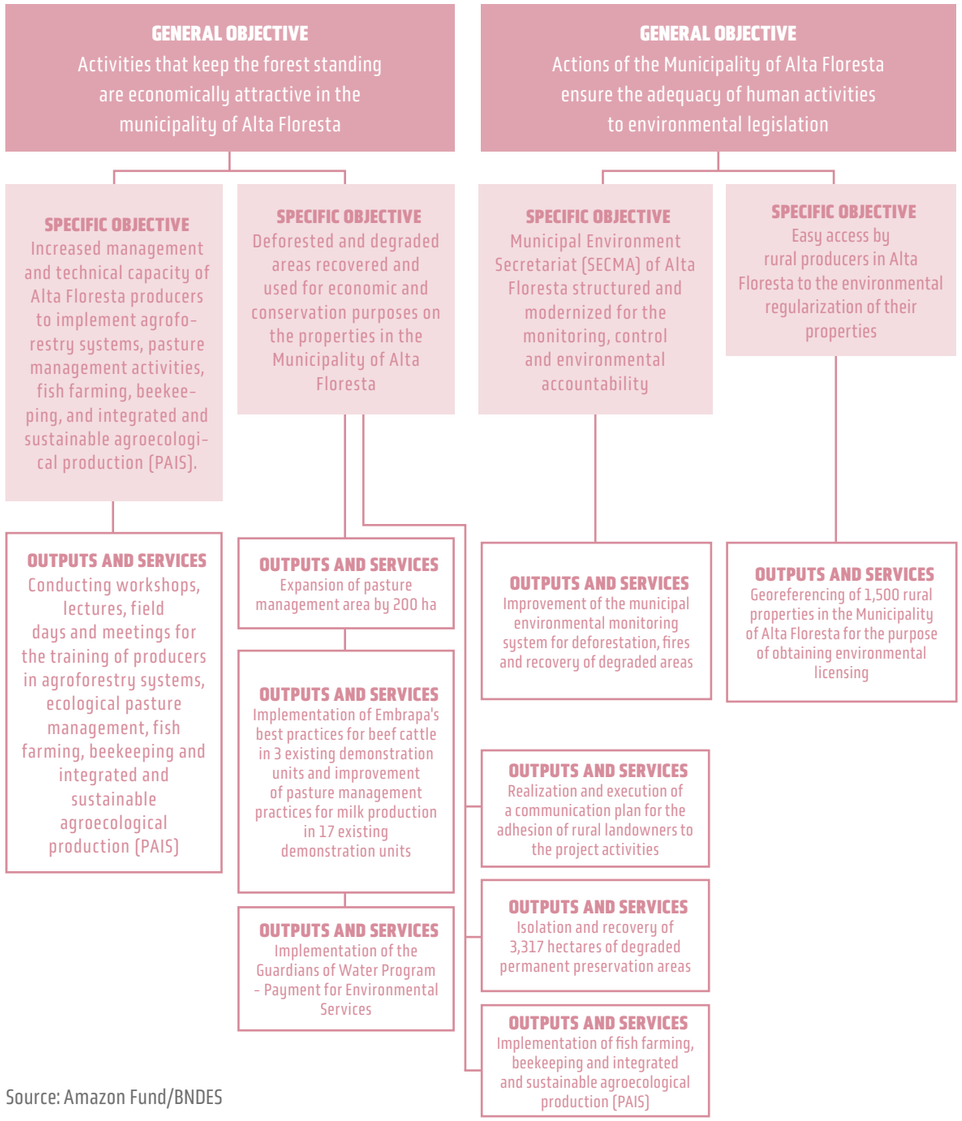
In red, the deforestation area; in yellow, agricultural settlements; in green, conservation units.

Analysis of the evolution of deforestation in areas of projects to support municipalities in the Amazon (2022)

3. INTERVENTION LOGIC

In the Amazon Fund's Logical Framework (Figure II) the *Amazon's Water Springs* – Phase II project is included in the Sustainable Production (1) and Monitoring and Control (2) components.

Figure II: Logical Framework Objectives Diagram of the Amazon's Water Springs Project - Phase II



Source: Amazon Fund/BNDES

4. METHODOLOGY

The entire methodological process used in this effectiveness evaluation of the Amazon's Water Springs – Phase II project includes the set of criteria already described in item 3 of the main report of this thematic evaluation (Applied Methodology), based on the criteria of the Organization for Economic Cooperation and Development (OECD). The OECD's definition of these criteria is intended to support consistent and high-quality evaluation by providing a normative framework for determining the merit or value of an intervention, be it a public policy, strategy, program or project[17].

A field mission was carried out to the municipality of Alta Floresta, at which time interviews were carried out with the technical team responsible for the preparation and implementation of the project in 2013, as well as with the current coordinator of the project, the Secretary of the Environment and Sustainable Development and the mayor. Some properties covered by the project were also visited, as well as the headquarters of the Alta Floresta Municipal Environment and Sustainable Development Secretariat and the municipal apiary. In addition to the Secretariat team, the technician responsible for monitoring and monitoring the project with the National Bank for Economic and Social Development (BNDES) was also interviewed.

To assess deforestation in the implementation area of the project, analyses were carried out based on PRODES data. The secondary and documentary data of the *Amazon's Water Springs* – Phase II project, which are in the information base of the Amazon Fund/BNDES, were also used as a methodological element.

17 OECD (2021). Applying Evaluation Criteria Thoughtfully. In OECD Publishing (Ed.), Applying Evaluation Criteria Thoughtfully. https://doi.org/10.1787/543e84ed-en

5. EVALUATION OF RESULTS

5.1. Indirect Effects: Reduction of deforestation with sustainable development in the Brazilian Amazon

The municipality of Alta Floresta, which has an area of 8,955 km2, developed from a private colonization project, started in 1975, and reached the condition of autonomous municipality in 1979, after being separated from Aripuanã – MT.

Regarding the Rural Environmental Registry (CAR), Table I has a description of the current situation in the municipality. It is important to note that most have not yet been evaluated by government institutions. Despite this, the project was successful in carrying out the CAR of 93% of the municipal territory. With the advance of the CAR, it is possible to analyze each property and identify the causes of deforestation as well as those possible responsible for it.

Table I: Rural Environmental Registry Figures in Alta Floresta

State	Municipality	Municipal area (km²)	Number of CARs	Total Area (km²)	Difference in Areas (km²)
MT	Alta Floresta	8.955	3347	8.364.61	608.82

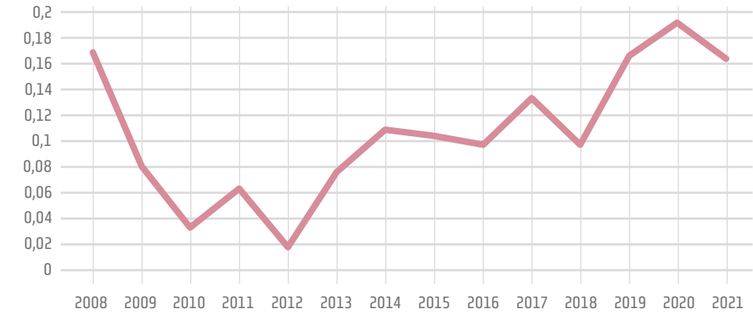
Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon – (2022)

The reason for the Amazon Fund's financing of the Amazon's Water Springs – Phase II project was in the context of the success of the first phase of the project, which allowed the municipality to be removed from the list of priority municipalities to combat illegal deforestation. In the first phase, the municipality completed more than 80% of the CAR of its territory and advanced in the recovery of PPAs. Given the high level of accumulated deforestation, the rapid growth of cities and the resulting increase in demand for drinking water, and the need to promote economic development without increasing deforestation, a second phase of the project was important to consolidate and increase the benefits achieved in the first phase.

This support for the *Amazon's Water Springs* – Phase II project is justified because it is fully in line with the Amazon Fund's main objective, which is to reduce deforestation with sustainable development in the Brazilian Amazon.

Deforestation in the Amazon, after a strong reduction between 2004 and 2012, started to show a growth trend and has been breaking successive records since 2019[18]. Deforestation has risen in a vertical curve, indicating total uncontrollability. All units of the federation detected deforestation alerts in 2021, and the state of Mato Grosso is currently in third place in the national ranking, with 11.47% of the deforested area[19]. The state also appears in third place in the ranking of fires in the Amazon between January and August 2022. Alta Floresta did not escape this trend, as depicted in the graph in Figure III

Figure III: Deforestation data (in km2) for the municipality of Alta Floresta (MT) between 2008 and 2021



Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon – (2022)

18 GARDOUR, C. Políticas Públicas para Proteção da Floresta Amazônica: O que funciona e como melhorar. Amazônia 2030. Climate Policy Initiative – PUC Rio: Rio de Janeiro. 2021

19 AZEVEDO, et al. (2022). RAD 2021: Relatório Anual do Desmatamento no Brasil 2021. São Paulo: MAPBIOMAS Alerta. 2022

In Table II, the deforestation data presented were aggregated into three periods: before the project (baseline), during the execution of the project (2011–2017) and post-project (2018–2022).

Table II: Deforestation in Alta Floresta before, during and after the execution of the Amazon's Water Springs project - Phase II

Municipality	Area (km²)	Baseline (2008-2010)	During the Projects (2011- 2020)	Post-Project (2021-2022)	Total
Alta Floresta	8.955,42	8,36	9,43	15,58	10,75

Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon – (2022)

5.2. Indirect Effects: Sustainable Production Component – activities that keep the forest standing are economically attractive

This objective was achieved through (1) the recovery of degraded areas; (2) the implementation of units demonstrating good livestock practices and increasing the area of managed pastures to increase productivity; (3) the introduction of income-generating activities – beekeeping, organic gardens and fish farming; (4) a program of payments for environmental services for water producers. Furthermore, the project also prepared and executed a communication plan to gain the adherence of rural outputs to its actions.

5.2.1. Direct Effects – Recovery of Degraded Areas

One of the main effects of the *Amazon's Water Springs – Phase II* project was the recovery of degraded areas, carried out through the planting of agroforestry systems (SAFs), which took place with the use of seedlings and seeds of native species, and natural regeneration after the fencing of the areas.

The project relied on Embrapa's partnership to develop this system and train the technicians who assisted rural producers. The project cost 30% of the chips (fences) and 80% of the wire used in the fences, which were made with the labor of the beneficiaries. As in the case of good livestock practices, the technicians installed some demonstration units to show the benefits of recovery in situ.

The project recovered 3,317 hectares of degraded areas, mostly PPAs around springs and watercourses. This work was done in partnership with the beneficiary producers of the action. In addition to having engaged in fencing the areas and planting seeds and seedlings, they attended a series of meetings, workshops and field days in previously recovered areas. (Figure IV)

Figure IV: Degraded areas under recovery in Alta Floresta

Source: Image taken by consultants during field visit

5.2.2. Direct Effects – Activities that are economically attractive

In partnership with Embrapa and the Municipal Secretariat of Agriculture, the project implemented organic gardens, officially called Integrated and Sustainable Agroecological Productions (PAIS) units. There were 20 units assisted by the municipality with infrastructure, including the drilling of semi-artesian

wells and obtaining the water license. Farmers, in general, sell their products directly at urban markets (Figure V),), but they have also created an association of organic producers in order to strengthen the chain. The creation of this association is an important element of sustainability to support the continuity of this chain.

Figure V: Organic products on sale at the Alta Floresta market

Source: Image taken by consultants during field visit

Another activity developed under Amazon's Water Springs – Phase II was the breeding of native bees. The municipal apiary began with a stock of 160 boxes of uruçu boca-de-renda bees (Melipona seminigra merrillae). During the project, the Municipal Environment and Sustainable Development Secretariat distributed 300 boxes free of charge to producers. In addition to being able to take up to six boxes, they received a one-day training session to learn how to handle the

Even with the end of the project, the apiary remains, but the distribution is no longer free. The Secretariat exchanges full boxes for empty ones with producers, which allows the activity to be expanded at a very low cost (Figure VI). The challenge for the project technicians is to strengthen the chain and create better conditions for the commercialization of honey in the municipality. Women and members of a mothers' club who also receive the boxes are involved in this activity.

Figure VI: Box of native bees in the Municipal Apiary of Alta Floresta

Source: Image taken by consultants during field visit

Fish farming was another activity proposed to rural producers, but strengthening this chain is also a challenge. Alta Floresta does not yet have an ice factory, a fundamental input for the transport and storage of fish. This limits the transportation of the product out of the municipality given the high costs. Nevertheless, the beneficiaries of this action are satisfied with the results obtained, especially after exchanging Tambaqui for Tabatinga, which is sold in local markets for R$ 8.00 per kilo.

In the interview with a group of beneficiaries, experiences of increasing income and reducing poverty for three families were identified. For one family, the production is almost 6,000 kilos per year of fish and, for two others, it reaches 8,000 kilos per year. (Figure VII)

Figure VII: Construction of fish farming tanks in Alta Floresta

Source: Municipal Environment Secretariat of Alta Floresta

The adoption of good practices in livestock farming was a fundamental component of the *Amazon's Water Springs project – Phase II*. The project directly reached 103 families and established 20 demonstration units of 4 hectares each, which may have had an even greater multiplier effect. The practices employed are relatively simple, but require investments in fences and increased soil fertility. Nevertheless, it affects the main economic activity of the municipality and allows a significant increase in productivity. With project resources, the area of pasture managed on small properties increased by 200 hectares.

This increase in productivity per hectare can be turned into a decrease in deforestation, provided that there are adequate command and control policies to prevent the profits from the activity from being invested in the acquisition and deforestation of new areas. Although the target group of the project was small owners, the technologies used, which were brought to Alta Floresta by Embrapa and Instituto Centro de Vida (ICV), also serve and benefit large owners. This had a positive effect on the project, as it earned it widespread political support.

Possibly the most innovative component of the project was the establishment of a Payment for Environmental Services (PSA) mechanism – through the Water Guardian Program – which reached 177 properties20[20]. Producers who adhere to the program formally undertake, through the Degraded Areas Recovery Plan (PRAD) and the Term of Conduct Change (TAC), to maintain vegetation in the springs and streams and, in return, receive R$240.00 per hectare per year.

The set of activities of the project, at the time of its execution and after its completion, has always been disclosed from an electronic website. This site also served to implement a strategy focused on communication and environmental education. This tool provides information on the library of studies, monographs, dissertations and theses whose object of study were the two interventions of the *Amazon's Water Springs* project. Currently, the site is in the process of readjustment and improvement in terms of navigability and usability. This is, therefore, another product generated by the project that was sustainable and can be used as a communication tool for the other environmental policies of the municipality.

20 Created and regulated by Municipal Law 1.556/2013.

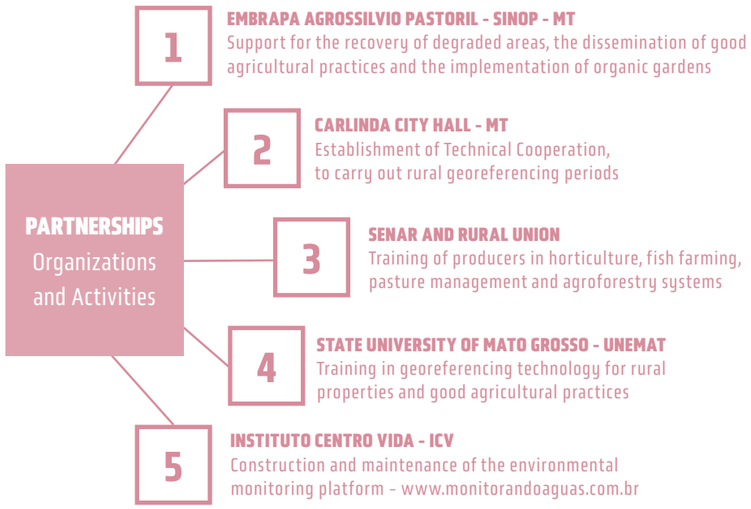
5.3. Indirect Effect: Monitoring and Control Component: actions of the municipality of Alta Floresta ensure the adequacy of human activities to the legislation

5.3.1. Direct Effects – Strengthening Municipal Environmental Management

Environmental management in Alta Floresta was already relatively institutionalized and strengthened at the beginning of the project. This is because the municipality had already executed the Amazon's Water Springs – Phase I project, which trained technicians in fundamental areas for management, such as geographic information systems and land and environmental regularization.

For the implementation of several of the activities foreseen in Phase II of the project, it was necessary to carry out several partnerships with governmental and non-governmental agencies. (Figure VIII)

Figure VIII: Partnerships Established by the Environment and Sustainable Development Secretariat



Source: Environment and Sustainable Development Secretariat

In addition to these partnerships for the execution of some activities of the *Amazon's Water Springs – Phase II* project, after its completion, a new project was presented to Enel Energia – a local energy provider – focused on generating sustainability of the results of Phase II. This new project – *Connecting the Landscape and Biological Flows in Urban and Rural Areas of Alta Floresta* – aimed to implement a municipal policy focused on regeneration. Due to the COVID-19 pandemic, the financing agent ended up choosing to invest in other projects focused on social credit.

The *Amazon's Water Springs – Phase II* project had to be adapted in terms of hiring consultants to implement the beekeeping and in terms of adapting environmental legislation

Municipal Policies and Budget

In the 2021 Annual Budget Law (LOA) (Table III), the Municipal Environment and Sustainable Development Secretariat had an expenditure forecast of R$3,210,000.00, which corresponds to just under 1.5% of the municipality's annul budget.

Table III: Alta Floresta municipal budget for 2022

Management Unit	Value
City Hall	R$ 6.970.000,00
Mayor's Office	R$ 2.875.000,00
Secretariat of Government, Management and Planning	R$ 14.086.057,00
Finance Secretariat	R$ 13.839.057,00
Attorney General's Office of the Municipality	R$ 1.885.000,00
Culture and Youth Secretariat	R$ 1.742.500,00
Social Assistance and Citizenship Secretariat	R$ 8.489.307,00

(Continued)

(Continued)

Municipal Education Secretariat	R$ 48.106.511,00
Sports and Leisure Secretariat	R$ 2.734.498,00
Infrastructure and Urban Services Secretariat	R$ 52.567.550,00
Municipal Health Secretariat	R$ 34.189.670,00
Municipal Innovation and Development Secretariat	R$ 1.030.000,00
Agriculture and Livestock Secretariat	R$ 4.200.000,00
Environment and Sustainable Development Secretariat	R$ 3.210.000,00
Total Direct Administration	R$ 195.925.150,00
Indirect administration IPREAF	R$ 31.305.000,00
GRAND	**R$ 227.230.150,00**

Source: Municipal Law no. 1302/2021

The total budget of the Secretariat corresponds to less than 1.5% of the annual budget of the municipality and is slightly less than the budget of the Agriculture and Livestock portfolio. Although it is not a very large fraction, it is worth remembering that it is exclusively in the environmental area, the only competence of this Secretariat, which was well structured when it started the project and with an experienced team, obtained in the first phase of the project.

The change of mayor since Alta Floresta became involved in environmental actions may have caused some turbulence, but it did not threaten the continuity of the environmental policy. The Secretariat has autonomy and executes policies that go beyond the commitments made in the *Amazon's Water Springs – Phase II* project.

The Secretariat was structured and assumed all the environmental licensing allowed by the legislation, decentralization that not only allows faster service to users but also generates revenues for the municipality. Thus, both businesspeople and the mayor value and support the initiative.

In an offshoot of the Amazon's Water Springs project, the Municipal Environment and Sustainable

Sustainable created the “Adopt a Spring” program, which aims to protect urban springs with private resources. It is a relatively low cost program, but it brings fruits not only to the city, but also to entrepreneurs, who associate the names of their companies with a beneficial action to the community. Furthermore, the city uses the program for environmental education activities and involves students and other citizens in cleaning the areas and planting trees in their surroundings. The program already has 23 “sponsors" and covers 45 hectares in the urban and peri-urban area.

At the time of the visit to the field, the Secretariat was moving to prepare a municipal water resources plan, which will serve not only as an environmental management instrument but also to raise funds from the federal government and other donors.

5.3.2. Direct Effects – Easier access by farmers to environmental regularization of their properties

In addition to the recoveries of PPAs, the *Amazon's Water Springs* project promoted environmental regularization through the realization of 445 CAR. The project team also georeferenced the perimeter of 760 properties with a view to CAR rectifications and SIMCAR registrations.

6. MANAGEMENT AND MONITORING

When *Amazon's Water Springs – Phase II* started, the team already had extensive experience, with emphasis on the first phase of this project, also financed by the Amazon Fund. Even with an interval between the two projects, the team continued to work at the Municipal Environment and Sustainable Development Secretariat of Alta Floresta, which allowed the continuity of some activities and a relative ease of resuming or starting others.

The fact that the municipality has assumed environmental licensing activities contributed to the strengthening of its Secretariat. As it is a relatively large municipality, the City Hall also had an administrative team, which had no problems with the strict accountability mechanisms of the BNDES.

7. CONCLUSION

The control of deforestation and the mapping of environmental liabilities by the CAR led to the emergence, in Alta Floresta, of a constant concern of rural producers with the recovery of degraded areas. The permanence of the activities of the nursery, if on the one hand it does not meet the demand for changes, on the other hand it keeps alive the idea that it is necessary and possible recover degraded areas, albeit slowly.

Based on the Amazon's Water Springs – Phase II project, it was possible to articulate public policies, for example with the National Institute of Colonization and Agrarian Reform (INCRA) for the georeferencing of properties, with the Land Institute of Mato Grosso and with the State Environment Secretariat of Mato Grosso (SEMA/MT) in aspects related to CAR and other activities focused on implementation of environmental projects.

The project was awarded by the National Water Agency and recognized as a relevant initiative by the Good Environmental Practices Award of the Brazilian Institute of Municipal Administration (IBAM). In 2015, the then mayor won the 2015 Entrepreneur Mayor Award in the Best Project category.

In addition to these awards, the *Amazon's Water Springs – Phase II* project stood out and was part of initiatives such as the Águas para o Futuro Program, of the Public Prosecutor's Office of Mato Grosso, and the Ambassadors of Climate Justice, an initiative in which the municipality of Alta Floresta has the largest number of young ambassadors.

According to the criteria recommended by the OECD, the evaluative results of the *Amazon's Water Springs* project presented in Chart I were verified.

CHART I: OECD Evaluative Criteria for the Amazon's Water Springs project - Phase II

Criteria	Results
Relevance	The Amazon's Water Springs – Phase II project was extremely relevant for the municipality. It consolidated advances Alta Floresta had made in Phase I of the Amazon's Water Springs project, particularly the recovery of degraded areas. The project is also relevant, as it was considered by managers as the main tool for mobilizing farmers to join the CAR.
Efficiency	It was a relatively low cost project, which can be credited to the fact that multiple partnerships were established. The Secretariat was already well structured at the beginning of the activities and worked with some low-cost technologies, such as good practices in livestock.
Efficacy	The project exceeded the goals for the recovery of degraded areas initially established. The areas remain isolated and floristic enrichment is perceived around the springs.
Effectiveness / Impact	The water supply of the urban area of Alta Floresta has stabilized at a safe level for the population. The City Hall has engaged in projects to protect water resources with its own resources.
Sustainability	Both the Municipal Environment Secretariat and the Agriculture Secretariat continue to provide technical assistance to producers who have already adopted or want to adopt the technologies disseminated in the project. The municipality has assumed its licensing powers and, as a result, provides better services and raises funds from fees.

8. RECOMMENDATIONS

	Recommendations	Executors	States	Amazon Fund	Federal Gov.	Municipal Gov.	Donors
Direct effect	Adhere to the state environmental licensing decentralization program					■	
	Invest in the technical career focused on environmental policies within the administrative structure					■	
	Transform projects and programs into public policies and thus not go through discontinuity processes when government changes occur					■	
	Resume and intensify the Food Purchase Program, focusing on sustainable production				■	■	
	Resume the actions of the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm)				■		
	Intensify the use of project results in environmental education actions					■	

9. CANCUN SAFEGUARDS (REDD+)

Safeguard	Complies	Note
1. Actions complementary to or consistent with the objectives of national forestry programs and other relevant international conventions and agreements	**NOT APPLICABLE**	
Are the projects aligned with the PPCDAm and the state plans for deforestation prevention and control?	**YES**	It is in line with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm). The municipality has made great progress towards environmental regularization and continues to support the rectification and realization of new CAR.
To which other federal public policies or international agreements have the projects demonstrated alignment? In which aspects?	**YES**	It is in line with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm). It has an environmental services valuation component. It is in line with the Brazilian Forest Code, especially with regard to Permanent Preservation Areas (PPA).
Did the project contribute or have the potential to contribute directly or indirectly to reducing emissions from deforestation and forest degradation? In what way?	**YES**	For the recovery of degraded areas.
2. Transparent and effective national forest governance structures, with a view to national sovereignty and national legislation		
To what extent have the projects promoted articulation between various actors (public sector, private sector, third sector or local communities)? Were shared governance bodies used? Which ones?	**YES**	It works in tune with the Secretariat of the Environment of Mato Grosso (SEMA/MT), has established partnerships with NGOs ICV, other municipal governments (Carlinda) and research and higher education institutions (UNEMAT, EMBRAPA).
To what extent have the projects contributed to strengthening public instruments and forest and land-use planning processes?	**NOT APPLICABLE**	
3. Respect for the knowledge and rights of indigenous peoples and members of local communities, considering relevant international obligations, national circumstances and laws and noting that the UN General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples		
To what extent have the projects influenced the constitutional rights associated with the possession and formal destination of land in its area of operation?	**NOT APPLICABLE**	
To what extent have the projects influenced the sustainable use of natural resources in their area of activity?	**YES**	Directly, through the recovery of springs from the city's main supply basin and, indirectly, through the dissemination of results and the dissemination of water conservation benefits.
If the projects had indigenous peoples, traditional communities or family farmers as direct beneficiaries: were their socio-cultural systems and traditional knowledge considered and respected throughout the projects?	**NOT APPLICABLE**	
Are there effects that interfere with the traditional way of life of these groups? What kind of effects: on social, economic organization or the use of available spaces and resources? How do they interfere: positively, negatively, or both?	**NOT APPLICABLE**	
4. Full and effective participation of stakeholders, in particular indigenous peoples and local communities, in the actions referred to in paragraphs 70 and 72 of Decision 1/CP 16		
How did the projects ensure the prior consent and the local/traditional way of choosing the representatives of their beneficiaries (especially indigenous peoples and traditional communities)?	**NOT APPLICABLE**	

Safeguard	Complies	Note
What participatory planning and management tools did the projects apply during planning and decision making?	NOT APPLI-CABLE	
In case of projects with economic purposes: were any benefits arising from the projects accessed in a fair, transparent and equitable manner by the beneficiaries, avoiding a concentration of resources?	YES	Demonstration units, organic gardens, PPA fencing, distribution, fish farming tanks and bee distribution were made for an audience formed by small producers, following technical criteria. Large livestock farmers also enjoyed the technology disseminated, but without directly or exclusively receiving recourse.
To what extent have the projects provided the general public and their beneficiaries with free access and easy understanding to information related to project actions?	YES	All information was published on the project website and in printed material produced by the secretariat.
Were the projects able to put together a good system for monitoring results and impacts? Did the projects systematically monitor and dissemi-nate the results achieved and their effects?	YES	The municipality has some capacity of its own to monitor through satellite images and, mainly, with the partnership with the ICV, which has recognized competence in the area.
5. Actions consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70, Decision 1/CP 16[21] are not used for the conversion of natural forests, but rather to encourage the protection and conservation of natural forests and their ecosystem services and to enhance other social and environmental benefits		
How did the projects contribute to the expansion or consolidation of protected areas?	NOT APPLI-CABLE	The municipality does not have protected areas in its territory
How did they contribute to the recovery of deforested or degraded areas?	YES	Effective recovery of 3,368 ha of PPA.
In the case of restoration and reforestation activities, did the methodologies used prioritize native species?	YES	The perennial species used are all native.
To what extent did the projects contribute to establishing recovery models with an emphasis on economic use?	PARTIALLY	There are species with potential economic uses, but this has not been discussed with the beneficiaries of the project. There is no perception of legal certainty for the exploration of these areas.
6. . Actions to address the risks of reversals in REDD+ results		
What factors pose risks to the permanence of REDD+ results? How did the projects approach them?	NOT APPLI-CABLE	
7. 7. Actions to reduce the displacement of carbon emissions to other areas		
Was there a shift of emissions avoided by project actions to other areas?	NOT APPLI-CABLE	

21 Decision 1/CP 16: Reduction of emissions from deforestation; reduction of emissions from forest degradation; conservation of forest carbon stocks; sustainable forest management and increase of carbon stocks

10. TRANSVERSAL CRITERIA

Transversal Criteria	Complies	Note
Poverty Reduction		
To what extent have the projects contributed effectively to economic alternatives that value standing forest and sustainable use of natural resources?	IN PART	By making producers aware of the fact that protected springs not only provide water for the urban environment, but also for livestock on the property.
To what extent have the projects positively influenced poverty reduction, social inclusion and improvement in the living conditions of beneficiaries living in their area of activity?	IN PART	Economic activities – fish farming, organic olive growing and beekeeping – have the potential to generate income. The challenge is to structure chains and scale production and marketing.
The projects have been able to promote and increase the production in the value chains of both timber and non-timber forest products, sourced from sustainable management?	NOT APPLI-CABLE	
Gender equity		
The project has had some overall results and impacts on gender issues.	YES	Based on the implementation activities of the gardens and beekeeping, women were included in the two strategies. Furthermore, the technical staff of the Municipal Secretary of the Environment now includes gender parity.
How did the project contribute to gender equity?	NOT APPLI-CABLE	
Articulation of Public Policies		
Was it possible to articulate the project with public policies of territorial and state scope ?	YES	For the implementation of the CAR and the decentralization of environmental licensing. Based on partnerships with the 2030 Agenda project.
Food and Nutrition Security		
Did the project contribute to the nutritional food security of the beneficiaries?	IN PART	Some families enjoy the production of honey and vegetables, but the scale is still small.
Was the project able to include beneficiaries into food and nutrition security policies and programs?	NOT APPLI-CABLE	

Evaluation 3

Preserving Porto dos Gaúchos

Organization responsible: City Hall of Porto dos Gaúchos	**Project period:** August 2011 – December 2013
Territorial scope: Municipality of Porto dos Gaúchos	**Beneficiaries:** Local population
Total project value: R$120,655.00	**Value of support from the Amazon Fund:** 100% of the total

Objective: Strengthen municipal environmental management, through the physical and operational structuring of the Municipal Environment and Tourism Secretariat

Source: Form prepared from the adaptation of information from the website of the Amazon Fund/BNDES

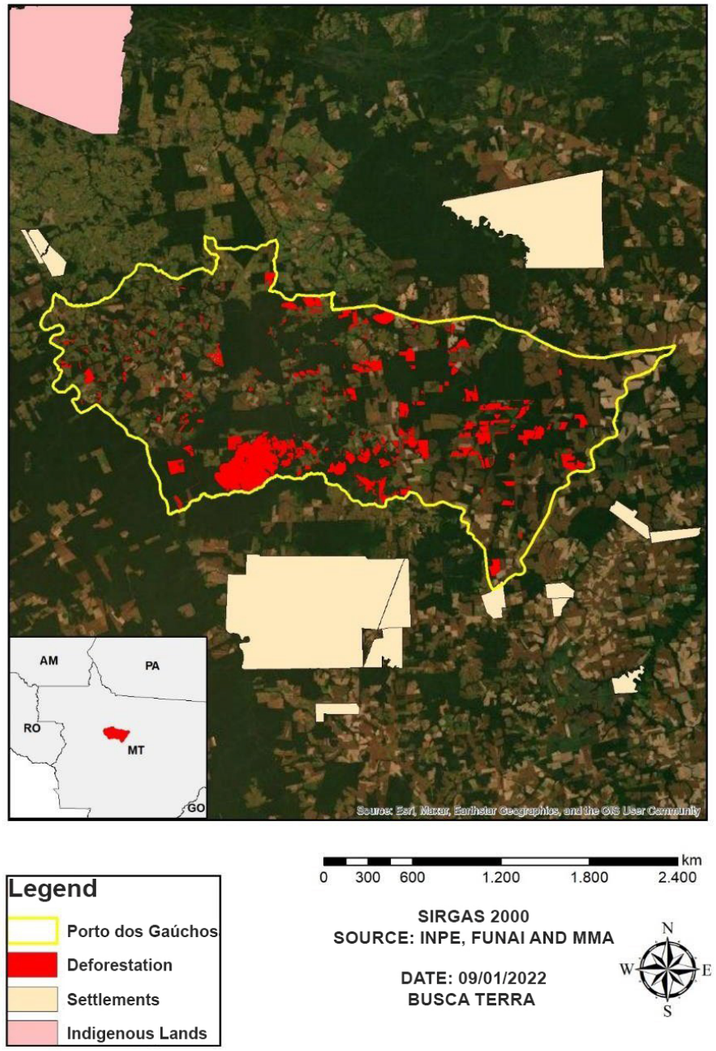
1. PROJECT SUMMARY

The Preserving Porto dos Gaúchos project covered the entire municipality of Porto dos Gaúchos, which has an area of 6,994 km² (Figure I). This project is part of the set of projects focused on supporting municipalities that have in common a high rate of deforestation and are located in the region known as the "Areas under intense pressure for deforestation"[22] .

The *Preserving Porto dos Gaúchos* project is one of the first initiatives of the Municipal Secretary of Environment and Tourism, which was created in December 2009. Its creation emerged as a response from the Municipality of Porto dos Gaúchos – MT, when, in 2008, the municipality was included in the list of those that most deforested within the scope of the Brazilian Amazon. Thus, the intervention supported by the Amazon Fund sought to provide a set of instruments to support actions and projects for environmental management with a focus on fight deforestation. With this, the project provided the physical and operational structuring of the Municipal Secretariat of Environment and Tourism of Porto dos Gaúchos – MT, from the acquisition of goods and equipment, such as vehicle, boat and computer and technology material.

22 Terms of Reference

Figure I: Territorial scope of the Preserving Porto dos Gaúchos project

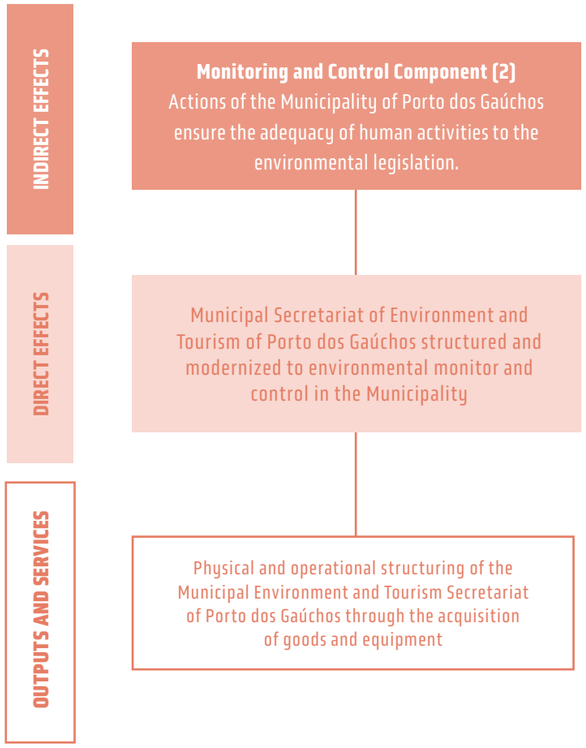


Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon – (2022)

2. INTERVENTION LOGIC

In the Amazon Fund's Logical Framework (Figure II) the Preserving Porto dos Gaúchos project is included in the Component: Monitoring and Control (2).

Figure II: Logical Framework Objectives Diagram of the Preserving Porto dos Gaúchos Project



Source: Consultants' own elaboration based on the Amazon Fund/BNDES

3. METHODOLOGY

The entire methodological process used in this effectiveness evaluation of the *Preserving Porto dos Gaúchos* project includes the set of criteria already described in item 3 (Applied Methodology) of the main report of this thematic evaluation, based on the criteria of the Organization for Economic Cooperation and Development (OECD). The OECD's definition of these criteria is intended to support consistent and high-quality evaluation by providing a normative framework for determining the merit or value of an intervention, be it a public policy, strategy, program or project[23].

A field mission was carried out to the municipality of *Porto dos Gaúchos*, at which time interviews were carried out with the technical team responsible for the preparation and implementation of the project in 2011, as well as with the current head of the Municipal Secretary of the Environment and Tourism and her team. In addition to the Secretariat team, the technician responsible for monitoring the project with the National Bank for Economic and Social Development (BNDES) was also interviewed.

At the time of the fieldwork, there was also a visit to a set of projects and interventions in the environmental area that are being implemented by the Municipal Environment and Tourism Secretariat. This visit was important to understand a set of other indirect effects generated from the project financed by the Amazon Fund. During these visits, beneficiaries of the projects were interviewed.

To evaluate deforestation in the area of implementation of the Preserving *Porto dos Gaúchos* project, analyses were carried out based on PRODES data. They were alsoused, as a method-

23 OECD (2021). Applying Evaluation Criteria Thoughtfully. In OECD Publishing (Ed.), Applying Evaluation Criteria Thoughtfully. https://doi.org/10.1787/543e84ed-en

ological element, the secondary and documentary data of the Preserving Porto dos Gaúchos project, which are included in the information base of the Amazon Fund/BNDES.

4. EVALUATION OF RESULTS

4.1. Contributions of the project to the Amazon Fund's objective

The reason for the Amazon Fund's financing of the Preserving Porto dos Gaúchos project was in a context of high deforestation rates. At the time of writing, Porto dos Gaúchos was included as one of the priority municipalities for actions to prevent, monitor and control deforestation, in accordance with the Ministry of the Environment's Order No. 28/2008.

At that time, the entire municipality was impacted, as the two main economic activities were based on the exploitation of the forest and were related to intensive livestock farming and illegal logging. Even during this period, all productive activities in the timber industry chain had to be paralyzed.

Support for the project is justified because it is fully in line with the Amazon Fund's main objective, which is to reduce deforestation with sustainable development in the Brazilian Amazon.

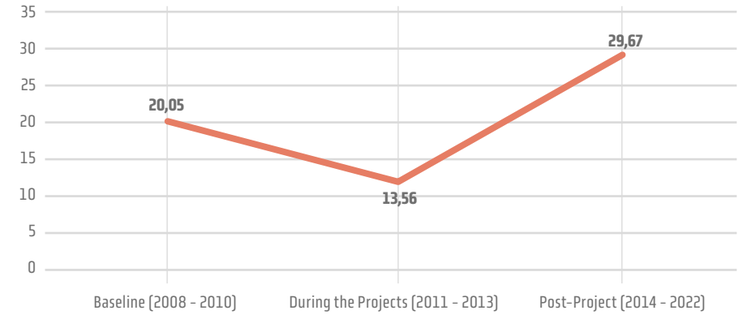
Deforestation in the Amazon, after a strong reduction between 2004 and 2012, began to show a growth trend, breaking successive records since 2019[24]. Thus, deforestation has risen in a vertical curve, indicating total uncontrollability. All

24 GARDOUR, C. Políticas Públicas para Proteção da Floresta Amazônica: O que funciona e como melhorar. Amazônia 2030. Climate Policy Initiative – PUC Rio: Rio de Janeiro. 2021

units of the federation had deforestation alerts detected in 2021, and the state of Mato Grosso is currently in third place in the national ranking, with 11.47% of the deforested area[25].

In relation to the municipality of Porto dos Gaúchos – MT, the graph in Figure III includes a set of deforestation trend data. Thus, in order to facilitate understanding, the data were aggregated in three periods: before the project (baseline), during the execution of the project (2011–2013) and post-project (2014–2022). Based on this graph, it is observed that, after the implementation of the project, there was an ascent curve in relation to deforestation in the municipality.

Figure III: Deforestation data (in ha) for the municipality of Porto dos Gaúchos (MT) - Period: before, during and after the project



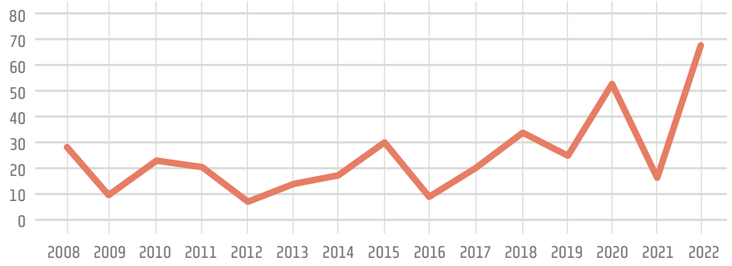
Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon – (2022)

In the graph shown in Figure IV, there is greater deforestation detail per year for the municipality of Porto dos Gaúchos. The periods with the lowest rates of deforestation were in 2012, with 7.21 hectares, and 2016, with 8.63 hectares. The highest rates were after the completion of the project, in 2022, with 69.23 hectares of deforestation and almost double the value of deforested area in 2020, to 51.60 hectares. Of this total,

25 AZEVEDO, et al. (2022). RAD 2021: Relatório Anual do Desmatamento no Brasil 2021. São Paulo: MAPBIOMAS Alerta. 2022

15% is legalized deforestation. It is likely that deforestation is more related to the advance of pastures or other vegetation than to agriculture itself. Currently, the municipality has 54% of native vegetation throughout its area of coverage.

Figure IV: Deforestation data (in hectares) per year for the municipality of Porto dos Gaúchos (MT)



Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon – (2022)

Despite these oscillations in the rate of deforestation in the municipality, an important change that occurred, and that is fully related to the Amazon Fund's objectives, was that in 2017, with the publication of Ordinance No. 362 of the Ministry of the Environment, Porto dos Gaúchos ceased to be part of the list of priority municipalities and became part of the list of municipalities with monitored and controlled deforestation[26]. It is important to note that the last list published was in 2021.

The municipality of Porto dos Gaúchos does not have protected areas (conservation units or indigenous lands) and has an area of 1.9381 km2 with settlements. It is a municipality that has an intense production, having almost 50% of its territory with crops, which is equivalent to an area of 3,230 km2 of planted area. More than half of the crop area has the predominance of soybean crops.

26 Check it out: BRASIL (2021). https://www.gov.br/mma/pt-br/assuntos/servicosambientais/controle-de- desmatamento-e-incendios- florestais/pdf/Listagemmunicpiosprioritriosparaaesdepreveno2021.pdf. Accessed on: September 10, 2022.

Regarding the Rural Environmental Registry (CAR), Table I presents a description of the current situation in the municipality. It is important to note that most have not yet been evaluated by government institutions. With the advance of the CAR, it is possible to analyze each property and identify the causes of the destruction as well as the possible responsible for it.

Table I: Rural Environmental Registry Figures for the Municipality of Porto dos Gaúchos

State	Municipality	Municipal area (km²)	Number of CARs	Total Area (km²)	Difference in Areas (km²)
MT	Porto dos Gaúchos	6.847	1.135	6.584,10	262,56

Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon – (2022)

For the technical team of the Municipal Environment and Tourism Secretariat of Porto dos Gaúchos:

> with the increase in the number of CAR registrations in the municipality, it has been possible to carry out better monitoring of the areas with identification of outbreaks of deforestation and burning. This monitoring is carried out in partnership with the State Environment Secretariat – SEMA and today from this work it is possible to carry out the monitoring more effectively and it is no longer necessary to run the risk of carrying out visits to the properties and having to face henchman in these areas[27].

The reality of the municipality in relation to deforestation goes through cycles ranging from low index to, in recent years, a high index. This is due to several factors, including the clos-

27 Interview conducted with the technical team of the Municipal Environment Secretariat during the field visit in August 2022

ing of the implementation of a new phase of the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm)[28] in 2020 and the lack of resources aimed at combating deforestation, characterized as a lack of political priority to face the problem[29]. As a result, small and low-budget communities suffer setbacks in their conservation and sustainable development policies.

As mentioned above, the main impact in terms of the municipality was the removal of Porto dos Gaúchos from the list of municipalities with the highest deforestation in 2017.

4.2. Indirect Effect: Monitoring and Control Component (2): Actions by the municipality of Porto dos Gaúchos ensure the adequacy of human activities to environmental legislation.

Monitoring and control policies focused on forest protection in the Amazon are fundamental investments in view of the benefits for reducing deforestation, as well as generating an indirect effect and positive impact on the extension and permanence of vegetation in the Amazon[30].

Thinking about public policies and interventions that can implement and strengthen monitoring and control actions are essential for the protection and maintenance of the standing forest. It is also extremely important to support environmental inspection with actions to prevent and control deforestation and the mapping of possible environmental crimes[31].

As such, the municipality of Porto dos Gaúchos today has a set of tools that allow possible areas of deforestation and burning to be monitored. This was based on the Preserving Porto dos Gaúchos project, which was later complemented with partnerships with the State Environment Secretariat of Mato Grosso (SEMA/ MT) for shared use if its environmental monitoring system.

Also in 2013, during the implementation period of the project supported by the Amazon Fund, it was possible to establish a partnership between the local government and the Environmental Conservation Institute, The Nature Conservancy of Brazil (TNC) and BUNGE to implement the Porto dos Gaúchos 100% Legal project. This project aimed at the free realization of the CAR for the rural owners of the municipality, as well as the environmental regularization of their rural properties, in order to make the agricultural development compatible with the conservation of the environment of the region.

4.3 Indirect Effect: Municipal Secretariat of Environment and Tourism of Porto dos Gaúchos structured and modernized to exercise environmental monitoring and control in the municipality

Based on the implementation of the Preserving Porto dos Gaúchos project, some effective results were identified for

28 GARDOUR, C. Políticas Públicas para Proteção da Floresta Amazônica: O que funciona e como melhorar. Amazônia 2030. Climate Policy Initiative – PUC Rio: Rio de Janeiro. 2021

29 DWECK, E.; ROSSI, P.; OLIVEIRA, A.L. DE. Economia pós pandemia: Desmontando os mitos da austeridade fiscal e construindo um novo paradigma econômico no Brasil. São Paulo: Autonomia Literária, 2020

30 GARDOUR, C. Políticas Públicas para Proteção da Floresta Amazônica: O que funciona e como melhorar. Amazônia 2030. Climate Policy Initiative – PUC Rio: Rio de Janeiro. 2021

31 WAISBICH, L. T.; HUSEK, T.; SANTOS, V. Territórios e caminhos do crime ambiental na Amazônia brasileira: da floresta às demais cidades do país. Rio de Janeiro: Instituto Igarapé Rio, 2022

The municipality and environmental policies. The value invested in the project is low compared to other interventions supported by the Amazon Fund.

When the Municipal Environment and Tourism Secretariat was created, there was only the act of creation and the appointment of a holder to the portfolio. From then on, there was an incessant search for resources that would give the municipality an ability to combat deforestation and fires. The project supported by the Amazon Fund was the first resource that the Secretariat was able to access.[32]

Preserving Porto dos Gaúchos also managed to generate a set of actions that until today are of great importance for the environmental area in the municipality. Based on this project, it was possible to generate a set of state capacity for the implementation of public policies.

The concept of state capacity comprises two dimensions: technical-administrative, which is related to the capacity and functioning of professionalized and high-level bureaucracies, endowed with organizational, financial and technological resources that support the conduction and implementation of government actions in a coordinated manner; and political-relational, which refers to a set of skills and procedures to articulate, dialogue and include multiple actors (social, economic and political) in public policy processes, seeking to build coalitions and negotiations to support public policies and government projects[33].

Further, during the implementation of the project supported by the Amazon Fund, it was possible to articulate the complementary project supported by TNC and BUNGE, *Porto dos Gaúchos 100% Legal*. Based on this, the municipality was able to be included in the decentralization program of SEMA/MT.

Municipal Policies and Budget

Based on the Preserving Porto dos Gaúchos project, it was possible to implement a set of actions and projects within the Municipal Secretariat of Environment and Tourism of Porto dos Gaúchos. Initially, they created the Municipal Environment Fund and the Municipal Environment Council and the creation of a vegetable garden.

More than a decade after the beginning of the project, today the Secretariat has a technical team composed of biologists, veterinarian, geographer, lawyer, civil engineer (in partnership with the Municipal Planning Secretariat), municipal environmental inspector and mid-level technicians.

Currently, there are resources included in the Pluriannual Plan (PPA) 2022–2025 of Porto dos Gaúchos for the Municipal Environment and Tourism Secretariat. For environmental policies, the budget forecast was R$1,569,000.00. The main policies and actions to be implemented with this resource are presented in Table II.

Table II: List of actions, programs and resources in the Municipal PPA

Actions and programs	Resources (R$)
Legal Tourism is Sustainable Tourism	339.000,00
100% Legal Sustainable Port	395.000,00
Purchase of Water Truck adapted for Fire Fighting	100.000,00

Source: Multiannual Plan of the Municipality of Porto dos Gaúchos – MT

32 nterview conducted with the first municipal secretary of environment and tourism of the municipality, during the field visit in August 2022

33 PIRES, R. R. C.; GOMIDE, A. A. Governança e capacidades estatais: Uma análise comparativa de programas federaos. Revista de Sociologia e Política, v. 24, n. 58, p. 121-143, 2016

An important finding of this effectiveness evaluation is that the municipal budget for environmental policies is greater than than that available for the policies of the Secretariat of Agriculture, which is R$1,319,200.00.

In addition to those provided for in the PPA, other sources of funds are the origin of licensing for projects in the municipality and fines and the Municipal Environment Fund, which, in August 2022, had resources totaling approximately R$230,000.00. Furthermore, of the three priority actions for the application of municipal resources, two are related to policies and programs focused on conservation and combating fires.

Currently, the Port of Gaúchos has a set of municipal environmental programs and policies that are under implementation and others in progress with the City Council for its approval. These state interventions are mostly carried out with the municipality's own resources. The main projects under implementation are described in Figure V.

Figure V: Projects of the Municipal Secretariat of Environment and Tourism of Porto dos Gaúchos

1. **FRIENDS OF RIO ARINOS PROJECT**
   In implementation since 2019 and covers the 106km of the Arinos River in the municipal area. It is an intervention focused on monitoring, river cleaning, environmental education, and combating overfishing.

2. **MUNICIPAL NURSERY**
   Implemented since 2021. In this area, native exotic seedlings are produced from seeds; fertilizer, abstracts and organic compost are produced; seedlings are supplied for reforestation, landscaping and replacement of vegetation in the urban and rural perimeter of the municipality and maintenance of the stock of seedlings compatible with the needs of the local population.

3. **PORTINHO REAL PROJECT: HOW RECYCLING CAN SUPPORT THE ENVIRONMENT**
   Project being implemented in a municipal school. The City Hall is currently processing a project that seeks to increase the financial contribution of the project.

4. **ENVIRONMENTAL MANAGEMENT PROJECT - SUSTAINABLE PORT**
   Project already underway to implement selective collection at the municipal level.

Source: Systematization by the consultancy based on information collected in the interviews carried out during the field visit

Another advance identified is that some of these environmental policies of the municipality of Porto dos Gaúchos are implemented in a transversal way with other municipal secretariats. An example identified is the urbanization project of public equipment (squares, central avenue and public agencies) in partnership with other municipal agencies.

Regarding physical infrastructure, the Municipal Secretariat for Environment and Tourism has a good physical headquarters (Figure VI), with modern equipment and vehicles, a mini-trailer and a boat that is used for inspection in the Arinos River area.

Figure VI: SEMATUR headquarters in Porto dos Gaúchos funded by the Preserving Porto dos Gaúchos project

Source: Image taken by consultants during field visits (2022)

The municipality no longer has a dump. Today there is a sanitary landfill.

In addition to the projects presented in figures V and VII, the Municipal Environment and Tourism Secretariat has carried out, annually, educational campaigns focused on environmental education, garbage recycling, energy saving and prevention of urban fires.

Figure VII: Images of the projects and policies implemented by SEMATUR of Porto dos Gaúchos

Municipal Nursery

Sustainable Port Project

Real Portinho Project - image of Moeda Portinho that is an incentive for public school students to enter environmental education and recycling programs

Friends of Rio Arinos Project

Source: Image taken by consultants during field visits (2022)

Environmental Monitoring and Management System

Porto dos Gaúchos did not develop its own system for monitoring fires and deforestation. The SEMA/MT system is used. However, the municipality developed a system, within the Rio Arinos to monitor the almost 70 ranches that are situated on the banks of said river.

Articulation with the Legislative Branch

There is a good dialogue between the legislative branch and the team of the Municipal Secretariat of Environment and Tourism. A positive example of this articulation is that this team is always consulted by the City Council when propositions are presented that represent setbacks for environmental policies. Furthermore, when there is a need to change or increase the budget allocation for environmental policies, councilors have always been partners in these initiatives.

5. MANAGEMENT AND MONITORING

The Preserving Porto dos Gaúchos project was the first experience of implementing an intervention financed by an external agent within the scope of the Municipal Environment and Tourism Secretariat of Porto dos Gaúchos. For the managers who were involved in the preparation and execution of the project, the support throughout the process of the Amazon Fund and BNDES technical team was fundamental to be able to implement the strategy.

A positive point identified was the dialogue of the team of the municipality of Porto dos Gaúchos with the technicians who already implemented and had extensive experience with projects of the municipal secretariats of Alta Floresta–MT and Marcelândia–MT. This exchange of experience is considered by the technicians of the Porto dos Gaúchos secretariat as fundamental for them to be able to correctly implement the project.

As such, the guidelines of the Amazon Fund's technicians and the dialogue with another municipal government were fundamental so that the project could be implemented effectively. Undoubtedly, the set of technical information made available

was important for the good implementation of the project.

The project was implemented within the expected contractual time and there was no need for an amendment.

6. CONCLUSION

The *Preserving Porto dos Gaúchos* project aimed to strengthen municipal environmental management through the physical and operational structuring of the Municipal Environment and Tourism Secretariat. As such, it is a project focused on equipment acquisition and infrastructure improvement.

In an effectiveness evaluation, it is important to consider not only the practical results of the intervention, but also its direct and indirect effects.

Thus, the project obtained the following results:

- Creation of state capacities for the management of environmental policies and combating deforestation;
- Ability to plan and execute environmental public policies;
- Creation of its own budget within the Municipal Multi-annual Plan for environmental policies;
- Decrease in deforestation in some periods; and
- Departure from the list of priority municipalities for actions to prevent, monitor and control deforestation, becoming part of the list of municipalities with monitored deforestation and under control

The project was extremely important to ensure the strengthening of the municipal institution responsible for environmental policies. The municipality currently has a technical team with capacity for planning and executing public policies. The solution of environmental problems and the implementation of policies in this area go through several aspects.

Offering public goods, elaborating projects, regulations, procedures and legislation and enabling public resources to implement public policies effectively is a good association to define that a public management has a good state capacity.[34] An example of this is that, in the municipal environmental area, the creation of public bureaucracies, such as the existence of its own environment management agency, the contraction of its own staff and the existence of a municipal environmental council and fund, are important mechanisms for advances in municipal environmental management.[35]

One challenge identified is that it was not possible to implement a municipal system to monitor deforestation and fires. The strategy found was to use the SEMA/MT system. As such, there is a challenge, as the municipal management ends up deciding on this issue when it is triggered by the State Secretariat.

The *Preserving Porto dos Gaúchos* project was only related to the Component (2) Monitoring and Control. However, working only on this component was positive at the time of project implementation. Currently, the municipality has other demands, such as that the actions of the Municipal Secretariat of Environment and Tourism can implement projects focused on combating deforestation, since in the last year there has been a significant increase in the deforestation rate of the municipality.

34 MARENCO, A.; STROHSCHOEN, M.T.B.; JONER, W. Capacidade estatal, burocracia e tributação nos municípios brasileiros. Revista de Sociologia e Políticas. V. 25, n. 64, p. 3-21,2017

35 MARENCO, A.; STROHSCHOEN, M.T.B.; JONER, W. Capacidade estatal, burocracia e tributação nos municípios brasileiros. Revista de Sociologia e Políticas. V. 25, n. 64, p. 3-21,2017

It is necessary to carry out a set of strategies that also include inspection, the implementation of sustainable production activities and the fight against fires and deforestation.

According to the criteria recommended by the OECD, the evaluative results of the Preserving Porto dos Gaúchos project are shown in Chart I.

CHART I: OECD Evaluative Criteria for the Preserving Porto dos Gaúchos project

Criteria	Results
Relevance	The Preserving Porto dos Gaúchos project was extremely relevant to the municipality. It comes at one of the most challenging moments for the municipality, when Porto dos Gaúchos was included in the list of municipalities that deforest the most. It was a time marked by a serious crisis in the local economy, which at the time was totally dependent on extensive cattle ranching and illegal logging. The motivation that led to the support for this project is still valid today, since in the last year there was an increase in the deforestation rate in the municipality.
Efficiency	It was a low cost project that, from its implementation, generated a set of capacities and institutional strengthening of the Municipal Environment and Tourism Secretariat for the formulation and implementation of some municipal public policies focused on the environment.
Efficacy	It is noted that the project had an adequate management for its implementation process and based on the transversality of a series of actions, managed to enable a partnership for the execution with two organizations (TNC and BUNGE) for the implementation of the Porto dos Gaúchos 100% Legal project. It is a project focused on carrying out the Rural Environmental Registration (CAR).
Effectiveness / Impact	The fact that the project created state capacity to implement a set of public environmental policies; in a transversal way to other interventions, it may have contributed to the reduction of deforestation in the municipality. Due to the decrease in this rate, the municipality left the priority list of the Ministry of the Environment in 2017.
Sustainability	The structuring of the Municipal Environment and Tourism Secretariat was undoubtedly one of the most lasting benefits. There is a consensus among the technicians that if they had not provided the institution with a minimum set of infrastructure and equipment, they would hardly have been able to move forward. In a transversal way, the implementation of the Porto dos Gaúchos 100% Legal project gave the municipality a significant increase in relation to the adhesion of producers to the CAR.

7. RECOMMENDATIONS

	Recommendations	Executors	States	Amazon Fund	Federal Gov.	Municipal Gov.	Donors
Direct effect	Also support projects to preserve watercourses and revitalize springs in deforested areas			■			
	That the municipal management could create a technical career focused on environmental policy within the administrative structure.					■	
	Creation of a municipal information bank on the experiences of environmental public policies, thereby avoiding the loss information on the actions of the various municipal governments					■	
	That the municipalities could transform their projects and programs into public policies and there-by avoid discontinuity processes when governments change.					■	
	Resumption of the actions of the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm)				■		

8. CANCUN SAFEGUARDS (REDD+)

Safeguard	Complies	Note
1. Actions complementary to or consistent with the objectives of national forestry programs and other relevant international conventions and agreements		
Are the projects aligned with the PPCDAm and the state plans for deforestation prevention and control?	YES	It is in line with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm), as the municipality was included in the list of those most deforested in the country.
To which other federal public policies or international agreements have the projects demonstrated alignment? In which aspects?	YES	It is in line with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm), as the municipality was included in the list of those most deforested in the country.
Did the project contribute or have the potential to contribute directly or indirectly to reducing emissions from deforestation and forest degradation? In what way?	YES	From the creation of the Municipal Environment and Tourism Secretariat, it was possible to generate a minimum set of municipal public policies focused on conservation and the environment
2. Transparent and effective national forest governance structures, with a view to national sovereignty and national legislation		
To what extent have the projects promoted articulation between various actors (public sector, private sector, third sector or local communities)? Were shared governance bodies used? Which ones?	NOT APPLI-CABLE	Indirectly, the project contributed to greater integration between municipal managers and SEMA-MT technicians. Furthermore, there was a dialogue with two other organizations that support and finance environmental projects (TNC and BUNGE).
To what extent have the projects contributed to strengthening public instruments and forest and land-use planning processes?	NOT APPLI-CABLE	
3. Respect for the knowledge and rights of indigenous peoples and members of local communities, considering relevant international obligations, national circumstances and laws and noting that the UN General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples		
To what extent have the projects influenced the constitutional rights associated with the possession and formal destination of land in its area of operation?	NOT APPLI-CABLE	
To what extent have the projects influenced the sustainable use of natural resources in their area of activity?	IN PART	In a transversal and indirect way.
If the projects had indigenous peoples, traditional communities or family farmers as direct beneficiaries: were their socio-cultural systems and traditional knowledge considered and respected throughout the projects?	NOT APPLI-CABLE	
Are there effects that interfere with the traditional way of life of these groups? What kind of effects: on social, economic organization or the use of available spaces and resources? How do they interfere: positively, negatively, or both?	NOT APPLI-CABLE	
4. Full and effective participation of stakeholders, in particular indigenous peoples and local communities, in the actions referred to in paragraphs 70 and 72 of Decision 1/CP 16		
How did projects ensure the prior consent and local/traditional selection of representatives of their beneficiaries (especially indigenous peoples and traditional communities)?	NOT APPLI-CABLE	
What participatory planning and management tools did the projects apply during planning and decision making?	NOT APPLI-CABLE	
In case of projects with economic purposes: were any benefits arising from the projects accessed in a fair, transparent and equitable manner by the beneficiaries, avoiding a concentration of resources?	NOT APPLI-CABLE	
To what extent have the projects provided the general public and their beneficiaries with free access and easy understanding to information related to project actions?	YES	All information was published on the project website
Were the projects able to put together a good system for monitoring results and impacts? Did the projects systematically monitor and disseminate the results achieved and their effects?	NOT APPLI-CABLE	

Safeguard	Complies	Note
5. Actions consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70, Decision 1/CP 1636[36] are not used for the conversion of natural forests, but rather to encourage the protection and conservation of natural forests and their ecosystem services and to enhance other social and environmental benefits		
How did the projects contribute to the expansion or consolidation of protected areas?	NOT APPLI-CABLE	The municipality does not have protected areas in its territory
How did they contribute to the recovery of deforested or degraded areas?	NOT APPLI-CABLE	
In the case of restoration and reforestation activities, did the methodologies used prioritize native species?	NOT APPLI-CABLE	
To what extent did the projects contribute to establishing recovery models with an emphasis on economic use?	NOT APPLI-CABLE	
6. Actions to address the risks of reversals in REDD+ results		
What factors pose risks to the permanence of REDD+ results? How did the projects approach them?	NOT APPLI-CABLE	
7. Actions to reduce the displacement of carbon emissions to other areas		
Was there a shift of emissions avoided by project actions to other areas?	NOT APPLI-CABLE	

36 Decision 1/CP 16: Reduction of emissions from deforestation; reduction of emissions from forest degradation; conservation of forest carbon stocks; sustainable forest management and increase of carbon stocks

9. TRANSVERSAL CRITERIA

Transversal Criteria	Complies	Note
Poverty Reduction		
To what extent have the projects contributed effectively to economic alternatives that value standing forest and sustainable use of natural resources?	IN PART	Transversely and indirectly from others projects.
To what extent have the projects positively influenced poverty reduction, social inclusion and improvement in the living conditions of beneficiaries living in their area of activity?	NOT APPLI-CABLE	
The projects have been able to promote and increase the production in the value chains of both timber and non-timber forest products, sourced from sustainable management?	NOT APPLI-CABLE	
Gender equity		
The project has had some overall results and impacts on gender issues.	NOT APPLI-CABLE	
How did the project contribute to gender equity?	NOT APPLI-CABLE	
Articulation of Public Policies		
Was it possible to articulate the project with public policies of territorial and state scope ?	IN PART	Based on the project, it was possible that the municipality could be decentralized by SEMA-MT for the implementation of environmental actions and policies in the municipality.
Food and Nutrition Security		
Did the project contribute to the nutritional food security of the beneficiaries?	NOT APPLI-CABLE	
Was the project able to include beneficiaries into food and nutrition security policies and programs?	NOT APPLI-CABLE	

Evaluation 4

Qualification and Environmental Management Program – PQGA/IBAM

Organization responsible: Brazilian Institute of Municipal Administration - IBAM	**Project period:** August 2013 – February 2018	**Beneficiaries:** Government and civil society
Territorial scope: Brazilian Amazon	**Total project value:** R$ 18.853.482,32	**Value of support from the Amazon Fund:** 100% of the total

Objective: Support 553 municipalities in the Brazilian Amazon, by strengthening environmental management in municipalities in the Amazon biome through the provision of training and technical assistance; the dissemination of knowledge and network information; and by stimulating innovation and promoting articulation with other spheres of government and society in general, within the scope of the policies

Source: Form prepared from the adaptation of information from the website of the Amazon Fund/BNDES

1. PROJECT SUMMARY

The *Environmental Qualification and Management Program – PQGA/IBAM* (hereinafter PQGA) had 553 municipalities in the Brazilian Amazon as its area of coverage. The program was designed with visas to support two of the Amazon Fund's priority areas, namely: (1) Environmental control, monitoring and inspection; and (2) Economic and Ecological Zoning, land planning and land regularization.

The program's actions focused on structuring and integrating environmental control, monitoring and inspection systems in the Amazon. This includes support for the structuring of state agencies responsible for state forest management; support for the implementation of municipal environmental monitoring and inspection systems; structuring and integration of forest management control systems, environmental licensing of rural properties and the tracking and chain of custody of agricultural and forestry products; and the expansion and intensification of monitoring systems for deforestation and forest degradation.

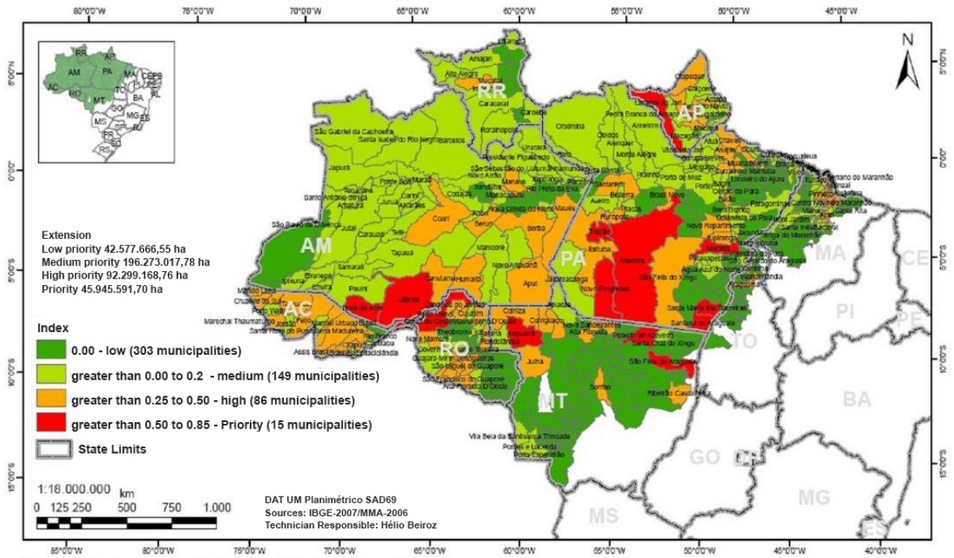
The *PQGA* proposed to strengthen environmental management in the municipalities of the Brazilian Amazon using a strategy that combined training of technicians and managers, direct assistance to municipalities, construction of networks for the dissemination of information, stimuli to innovation in municipal management and

Given the challenge of working in such a large region, the Brazilian Institute of Municipal Administration (IBAM), responsible for the project, prioritized the municipalities according to the following criteria:

- belonging to the municipality of "Arc do Fogo";
- incidence of investments of the Growth Acceleration Program (PAC) in the territory of the municipality;
- number of areas covered by conservation units (CU) in relation to the total area of the Brazilian territory; and
- have an urban growth rate above the state average, based on the IBGE municipal count of 2000 and 2011.

Based on the application of the criteria, 303 municipalities were categorized as low priority, 149 as medium priority, 86 as high priority and 15 as priority for the intervention. The spatial distribution of these municipalities is presented in the map in Figure I. It is important to note that this prioritization did not exclude the municipalities of lower priority from the program's actions.

Figure I: Spatial distribution of PQGA incidence municipalities, by priority

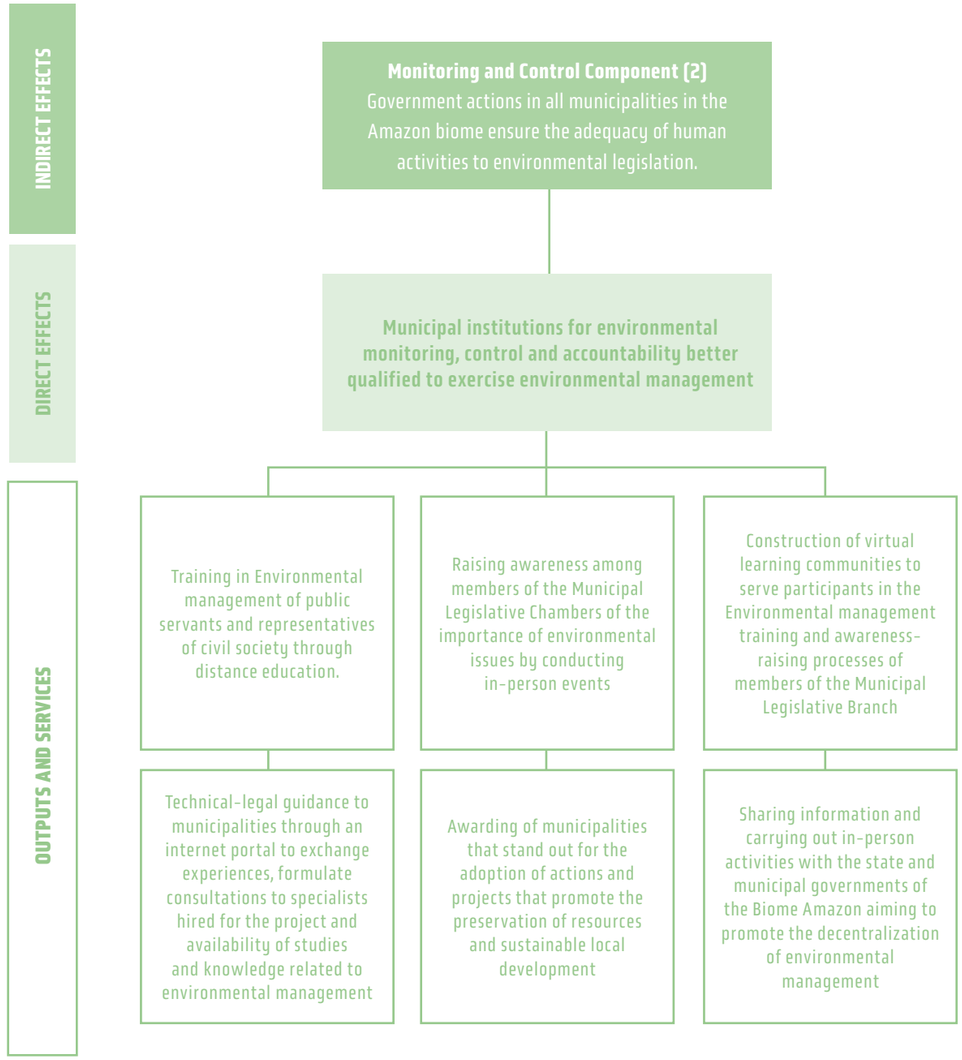


Source: BNDES/Amazon Fund

2. INTERVENTION LOGIC

The PQGA acts on the Monitoring and Control Component (2) of the Amazon Fund by strengthening municipal environmental management. Figure II shows the program's objective tree.

Figure II: Logical Framework Objectives Diagram of the PQGA



ource: Evaluation Consultancy ToR

3. METHODOLOGY

The entire methodological process used in this effectiveness evaluation of the PQGA includes the set of criteria already described in the methodology and already presented in the thematic report of the evaluation, based on the criteria of the Organization for Economic Cooperation and Development (OECD). The OECD's definition of these criteria is intended to support consistent and high-quality evaluation by providing a normative framework for determining the merit or value of an intervention, be it a public policy, strategy, program or project[37].

Data collection was carried out through two virtual meetings with the IBAM team, which included the program coordinator and those responsible for the six components of the PQGA and the organization of the database related to all activities performed. A third virtual meeting was held with three participants from the learning communities – thematic discussion networks structured by PQGA. In addition to these meetings, questions about the PQGA were asked of project managers during field visits to five municipalities in northern Mato Grosso that have municipal projects supported by the Amazon Fund.

The PQGA document was also used as a methodological element, which is available in the Amazon Fund/BNDES information database and in IBAM's own database.

37 OECD (2021). Applying Evaluation Criteria Thoughtfully. In OECD Publishing (Ed.), Applying Evaluation Criteria Thoughtfully. https://doi.org/10.1787/543e84ed-en

4. EVALUATION OF RESULTS

4.1. Contributions of the project to the Amazon Fund's objective

The Amazon Fund's financing for the PQGA was motivated by the difficulties faced by municipalities in the Amazon region in developing and implementing environmental policies. This deficiency became apparent after the creation of the list of priority municipalities to combat deforestation, within the scope of the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm). The list had economic consequences for the municipalities and led the local governments to engage in the fight against deforestation, mainly through support for the environmental and functional regularization of rural properties.

The support given to the *PQGA* is justified by the fact that the qualification of local environmental management is fully in line with the Amazon Fund's main objective, which is to reduce deforestation through sustainable development in the Brazilian Amazon.

4.2. Indirect Effect: Monitoring and Control Component (2): Actions by municipalities in the Amazon ensure the adequacy of human activities to environmental legislation

Given the extent of the Brazilian Amazon, even considering the prioritization of municipalities made by IBAM, these direct effects are quite diffuse.

Based on this evaluation, it is identified that the aspects related to the strengthening of municipal institutions for implementing a strategy for planning and implementing public policies on the environment and sustainable development had

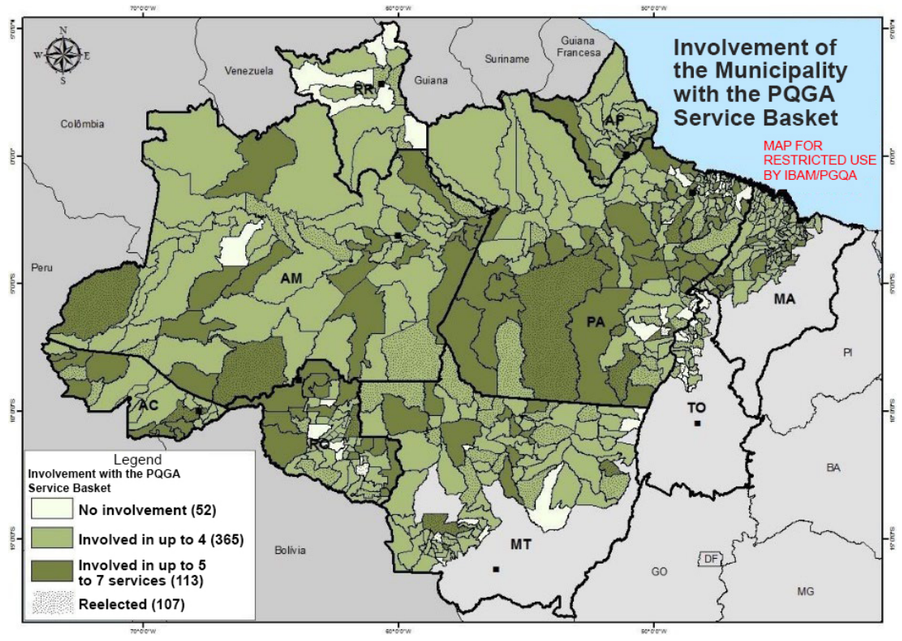
its objectives achieved. In addition, the processes of training, qualification and creation of networks of managers and technicians were fundamental to support local public policies.

4.3. Direct Effect: Monitoring and Control Component (2): Municipal institutions for environmental monitoring, control and accountability better qualified to exercise environmental management

The actions carried out by IBAM were partly offered at a distance and the participation of the municipalities in the program was on a voluntary basis. In addition to the vast expansion of the PQGA incidence area, these factors created two risks to the project: (1) disinterest of the preferred target audience (municipal managers) or, conversely, (2) interest of a public that was not a priority and that could even use the benefits arising from the program for personal gains. To avoid this, the project managers decided to establish a Cooperation Agreement with the municipalities. After signing these agreements, the municipal executive would indicate the agents who would use certain services, such as the opinion platform, or who would be able to request specific opinions. Such indication required the provision of email and password for restricted access to the platform. According to one of our interviewees, the issue was precisely to empower the public power and not private consultancies. Sometimes, in small municipalities, this distinction is blurred because the same person who works in government has a relative or friend who sells some service to the City Hall.

Figure III shows a spatial representation of the municipalities of the Brazilian Amazon with the PQGA according to their involvement in actions and outputs offered by the program. The data suggests a greater interest of municipalities located in the region known as "Areas under intense pressure for deforestation" and along the BR-163 highway.

Figure III: Intensity of the involvement of the municipalities of the Brazilian Amazon with the PQGA



Source: IBAM

The greater interest in these managers and technicians who live in this region is justified by the fact that it is an area with a strong incidence on the implementation of public policies and the need for capacity building to support the execution of these state interventions.

Component 1 – Training focused on environmental management for municipalities

diffusion – 5547 participations in courses, with participants from 408 municipalities – having been open activities and that do not require registration on the platform. Although part of this large audience was not composed of environmental managers, many training themes were suggested by managers, both at the time of signing the cooperation terms and during the first qualifications.

The data from the PQGA database in fact show a great concentration of the students of these training in the capitals and in large cities, being greater than the participation of environmental managers from the cities of the PGQA target audience (Table I). This was possibly because larger cities concentrated higher education institutions, particularly public institutions. This apparent lack of focus is not a problem in this case; on the contrary, if this hypothesis is correct, the PQGA may have contributed to the training of many university students, some of whom may work in municipal management.

Table I: The ten municipalities with the highest number of students who completed PQGA training

Municipality	Certificates
Manaus	482
Belém	374
São Luís	193
Macapá	140
Alta Floresta	135
Rio Branco	126
Altamira	91
Bragança	84
Cruzeiro do Sul	79
Humaitá	63

Source: IBAM

During the field visits, almost all technicians and managers interviewed had participated in at least one qualification offered by the PQGA. Interestingly, few remembered the subjects of the courses taken.

Component 2 – Meetings with the Municipal Legislative Branch

The objective of this component was to boost the debate and participation of the Legislative Branch in topics of relevant interest to the environmental agenda of the Brazilian Amazon through contacts with municipal political agents. Twenty-eight appointments were made in seven states, with the participation of 1,518 representatives. These numbers are impressive, but it is necessary to consider the size of the challenge of involving councilors in environmental policies, given the little interest of their voters in the subject. During the field visits, municipal managers confirmed the low involvement of the legislature with environmental policies. Even so, the awareness and training of the legislature at least help the executive branch to pass relevant environmental legislation.

Component 3 – Technical and legal guidance to municipal governments

The objective of this component was to provide municipalities with remote technical assistance based on consultations and the production of technical opinions and guidelines. It also included the maintenance of a portal containing studies, legal opinions, models of bills, technical articles, projects, research, good practices and other documents of interest to the municipal administration. This seems to have been a central component of the PQGA, given the chronic lack of legal advice with qualification in the environmental area in small municipalities. This shortage causes municipal secretaries to have to resort

to private legal consultancies and, in the absence of budgetary resources, risk making decisions that may be challenged in court or opt for inaction.

The PQGA called on 53 consultants to prepare 50 technical notes. Furthermore, it compiled a library of legal documents that had 5,294 accesses from 247 municipalities. It is worth remembering that these accesses were made only by authorized persons in accordance with the terms of cooperation. Table II shows the themes of the 100 most accessed documents. The issue of "environmental licensing" draws attention, a competence that is increasingly being decentralized to municipalities. Another relevant data concerns the origin of queries to this database. Contrary to what happened with the qualifications, among the ten municipalities that most accessed the documents, there was no capital. This suggests that this action actually reached municipalities with less management capacity.

Table II: Topics of the most accessed documents on the PQGA platform

Topics of the most accessed documents	Number of accesses
Permanent Protection Areas	49
Pollution Control.	13
Environmental Inspection.	116
Environmental Licensing.	271
Environmental regularization	12
Municipal Environmental System	37

Source: Evaluation team's own elaboration based on data compiled by IBAM.

Component 4 - Learning Communities

This was a continuing education strategy that aimed to create networks that would allow graduates of the training processes to exchange experiences and deepen topics of common interest. In IBAM's own evaluation, these networks worked better with a focus on discussions related to each state than with a focus on specific issues, which was the original objective of the action. In addition, the states with the highest participation in the network – Pará and Maranhão – were those in which there were people acting as the focal point of the PQGA and where the program organized more in-person meetings.

In the municipalities visited in the north of Mato Grosso, we were unable to detect the operation of these networks, despite the fact that the managers had provided training offered by the PQGA. In the interviews, the participants of the communities in Pará made clear the importance of the network, which at the same time facilitated and was valued by the participation of the municipal secretaries of the environment in the state government's Green Municipalities program. Similarly, the communities strengthened and were strengthened by the Forum of Secretaries of the Environment in their negotiations in the process of decentralization of environmental licensing.

From these experiences, two forums were implemented: the Permanent Forum of Municipal Environmental Secretaries of the State of Pará (FOPESMMA), composed of 133 municipalities, and the Forum of Municipal Environmental Secretaries of Amapá. These two bodies are in full operation, which is considered an important impact generated from the implementation of the PQGA. There was an attempt to implement such a body for Maranhão, but it was not possible to implement it in that state.

Component 5 – Awarding good practices

The objective of this action was to reward municipalities and NGOs that stood out for the adoption of practices, actions and projects aimed at the preservation of natural resources from the perspective of sustainable local development. There was

participation by 183 municipalities and registration of 140 practices, of which 61 were selected – 10 awarded and the others recognized. The practices were divided and awarded into five categories: environmental education; territorial and land management; socio-environmental governance; sustainable production and conservation incentives; monitoring, control and environmental recovery.

Although it seems trivial, the award touches a very important subjective aspect: the vanity of the public manager and even of the population, which sees its municipality recognized. When asked about the PQGA, the first thing local respondents remembered was the award, even though their communities had not won. The mere fact of having their projects registered was already a very valued sign of recognition. Even the managers of municipalities that did not even register for the award made references to experiences awarded by both the PQGA and other similar initiatives. In the end, this type of award takes on the role of a voluntary and continuous communication tool and seems to be a very promising action to involve mayors in environmental projects and to legitimize such projects in the eyes of the citizens.

Component 6 - Improvement of state-municipal relations to decentralize environmental management

This action aimed to promote the articulation between states and municipalities and other partners for monitoring and information sharing, as well as for monitoring environmental policies, programs and projects. The actions involved 925 trained managers and technicians from 174 municipalities. They participated in 14 state meetings on the policy of decentralization of municipal environmental management and 5 macro-actions (training workshops on environmental licensing in the states of Mato Grosso, Amapá, Roraima and Maranhão with the participation of 330 people from 63 municipalities).

Based on this articulation, advisory services were provided to two existing consortia in the area of operation of the PQGA. One of the initiatives was to strengthen the management of the Inter-Municipal Consortium for Sustainable Development Portal da Amazônia and Complexo Nascente do Pantanal, in Mato Grosso. The focus of this initiative was to guide and disseminate experiences on environmental licensing in a consortium manner.[38]

5. MANAGEMENT AND MONITORING

The PQGA had very effective management and control mechanisms. This was because IBAM is a relatively large, well-structured organization with a trained and experienced management team. Furthermore, because it is a large and high-cost project, it was designed with two components directly linked to management and monitoring: (1) General Coordination; (2) Technology and Information. Together, these two components accounted for approximately 50% of the project costs.

Actions taken included creating a web portal for the program, hiring professionals to manage the program, producing institutional videos, and creating a dedicated program management system. As a result, IBAM developed a multimedia communication strategy and built a rich database with detailed records of all PQGA activities.

38 IBAM. Effectiveness Evaluation: Environmental Management Qualification Program (PQGA) – Amazon Biome Municipalities. Rio de Janeiro. 2020.

6. CONCLUSION

Evaluating the PQGA is challenging, not only because of its large territorial scope, but also because it is a program that focuses on human capacity, which is not easy to measure objectively. Despite this, the PQGA's actions reached many beneficiaries, especially in its training and technical-legal guidance actions. These actions differ greatly from each other in the sense that the first has diffuse effects and may have benefited a large number of people who have no relationship with municipal environmental management. The technical-legal guidance was limited to municipalities that established cooperation agreements with IBAM and had a very well-defined focus on the needs of these municipalities.

The learning communities were planned to be structured along specific themes, but ended up being more effective for the discussion of specific themes of the states. This shows yet another limitation of the regional approach. In addition, communities were more effective in states where there were in-person meetings on topics related to state policies. This shows the advantages of "territorializing" projects and using social networks as complementary tools to in-person activities.

On the other hand, the larger territorial scale is positive for the awarding of good practices, as it gives more visibility to the awarded projects and their managers.

One finding in this evaluation is that the IBAM team carried out an effectiveness evaluation at the end of the program and used the Amazon Fund's Conceptual Framework evaluations as a methodological reference.

According to the criteria recommended by the OECD, results of the *Environmental Qualification and Management Program* presented in Chart I.

CHART I: OECD Evaluation Criteria of the Environmental Qualification and Management Program

Criteria	Results
Relevance	The PQGA directly addresses a relevant issue, which is the lack of municipal capacity for environmental management. This deficiency became critical when the PPCDAm brought the municipalities within the policy to combat deforestation.
Efficiency	It was a high cost project, given its territorial scope and relative complexity. In addition, its results are diffuse, long-term and difficult to measure because it involves the training of human resources. Therefore, a simple cost-benefit ratio comparing costs does not demonstrate the degree of efficiency achieved.
Efficacy	The project is effective as a complement to other actions that more directly attack deforestation.
Effectiveness / Impact	Effective in conjunction with other deforestation control measures.
Sustainability	Municipalities that have registered with the PQGA will continue to have access to the legal-technical guidance platform. The award for Good Municipal Practices still has a positive impact on the field. These are indicative of continued sustainability of the program.

7. RECOMMENDATIONS

Recommendations	Executors	States	Amazon Fund	Federal Gov.	Municipal Gov.	Donors
Continue qualification actions focusing on specific problems of the states	■	■	■			
Maintain access to and expand the legal-technical guidance platform	■		■		■	
Replicate best practice award experience	■		■		■	
Build an online repository of successful experiences and technical guidance on topics such as recovery of degraded areas			■		■	
Integrate and focus on the tools used in the project.	■		■			

8. CANCUN SAFEGUARDS (REDD+)

Safeguard	Complies	Note
1. Actions complementary to or consistent with the objectives of national forestry programs and other relevant international conventions and agreements		
Are the projects aligned with the PPCDAm and the state plans for deforestation prevention and control?	YES	It is in line with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm) in its municipalization component (list of priori-ty municipalities).
To which other federal public policies or international agreements have the projects demonstrated alignment? In which aspects?	YES	It is in line with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm), as the municipality was included in the list of those most deforested in the country.
Did the project contribute or have the potential to contribute directly or indirectly to reducing emissions from deforestation and forest degradation? In what way?	YES	From the creation of the Municipal Environment and Tourism Secretariat, it was possible to generate a minimum set of municipal public policies focused on conservation and the environment
2. Transparent and effective national forest governance structures, with a view to national sovereignty and national legislation		
To what extent have the projects promoted articulation between various actors (public sector, private sector, third sector or local communities)? Were shared governance bodies used? Which ones?	IN PART	Promotes articulation between federative entities
To what extent have the projects contributed to strengthening public instruments and forest and land-use planning processes?	YES	For the creation of communication networks, articulation between federative entities and recognition of good practices.
3. Respect for the knowledge and rights of indigenous peoples and members of local communities, considering relevant international obligations, national circumstances and laws and noting that the UN General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples		
To what extent have the projects influenced the constitutional rights associated with the possession and formal destination of land in its area of operation?	NOT APPLI-CABLE	
To what extent have the projects influenced the sustainable use of natural resources in their area of activity?	IN PART	In a transversal and indirect way.
If the projects had indigenous peoples, traditional communities or family farmers as direct beneficiaries: were their socio-cultural systems and traditional knowledge considered and respected throughout the projects?	NOT APPLI-CABLE	
Are there effects that interfere with the traditional way of life of these groups? What kind of effects: on so-cial, economic organization or the use of available spaces and re-sources? How do they interfere: posi-tively, negatively, or both?	NOT APPLI-CABLE	
4. . Full and effective participation of stakeholders, in particular indigenous peoples and local communities, in the actions referred to in paragraphs 70 and 72 of Decision 1/CP 16		
How did projects ensure the prior consent and local/traditional selection of representatives of their beneficiaries (especially indigenous peoples and traditional communities)?	NOT APPLI-CABLE	
What participatory planning and management tools did the projects apply during planning and decision making?	NOT APPLI-CABLE	
In case of projects with economic pur-poses: were any benefits arising from the projects accessed in a fair, trans-parent and equitable manner by the beneficiaries, avoiding a concentration of resources?	NOT APPLI-CABLE	
To what extent have the projects provided the general public and their beneficiaries with free access and easy understanding to information related to project actions?	YES	All information was published on the project website
Were the projects able to put together a good system for monitoring results and impacts? Did the projects systematically monitor and disseminate the results achieved and their effects?	YES	The project keeps an excellent record of the public benefiting.

Safeguard	Complies	Note
5. Actions consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70, Decision 1/CP 16 [39]are not used for the conversion of natural forests, but rather to encourage the protection and conservation of natural forests and their ecosystem services and to enhance other social and environmental benefits		
How did the projects contribute to the expansion or consolidation of protected areas?	IN PART	The training of local managers contributes to the consolidation of these areas, even though there are very few municipal CUs in the Amazon
How did they contribute to the recovery of deforested or degraded areas?	IN PART	Due to the specific qualification of managers.
In the case of restoration and reforestation activities, did the methodologies used prioritize native species?	NOT APPLI-CABLE	
To what extent did the projects contribute to establishing recovery models with an emphasis on economic use?	NOT APPLI-CABLE	
6. . Actions to address the risks of reversals in REDD+ results		
What factors pose risks to the permanence of REDD+ results? How did the projects approach them?	NOT APPLI-CABLE	
7.Actions to reduce the displacement of carbon emissions to other areas		
Was there a shift of emissions avoided by project actions to other areas?	NOT APPLI-CABLE	

39 Decision 1/CP 16: Reduction of emissions from deforestation; reduction of emissions from forest degradation; conservation of forest carbon stocks; sustainable forest management and increase of carbon stocks

9. TRANSVERSAL CRITERIA

Transversal Criteria	Complies	Note
Poverty Reduction		
To what extent have the projects contributed effectively to economic alternatives that value standing forest and sustainable use of natural resources?	IN PART	In a transversal and indirect way from other projects.
To what extent have the projects positively influenced poverty reduction, social inclusion and improvement in the living conditions of beneficiaries living in their area of activity?	NOT APPLI-CABLE	
The projects have been able to promote and increase the production in the value chains of both timber and non-timber forest products, sourced from sustainable management?	NOT APPLI-CABLE	
Gender equity		
The project has had some overall results and impacts on gender issues.	NOT APPLI-CABLE	
How did the project contribute to gender equity?	NOT APPLI-CABLE	
Articulation of Public Policies		
Was it possible to articulate the project with public policies of territorial and state scope ?	IN PART	The program articulates municipal and state governments.
Food and Nutrition Security		
Did the project contribute to the nutritional food security of the beneficiaries?	NOT APPLI-CABLE	
Was the project able to include beneficiaries into food and nutrition security policies and programs?	NOT APPLI-CABLE	

Evaluation 5

Recovering Marcelândia Project

Organization responsible:
City Hall of Marcelândia

Project period:
2011 to 2017

Beneficiaries:
Local population

Territorial scope:
Municipality of Marcelândia

Total project value:
R$551,556.98

Value of support from the Amazon Fund:
100% of the total

Objective: Support the strengthening of municipal environmental management and the recovery of degraded areas around 50 springs in the Manissauá-Missu river sub-basin, located near

Source: Form prepared from the adaptation of information from the website of the Amazon Fund/BNDES

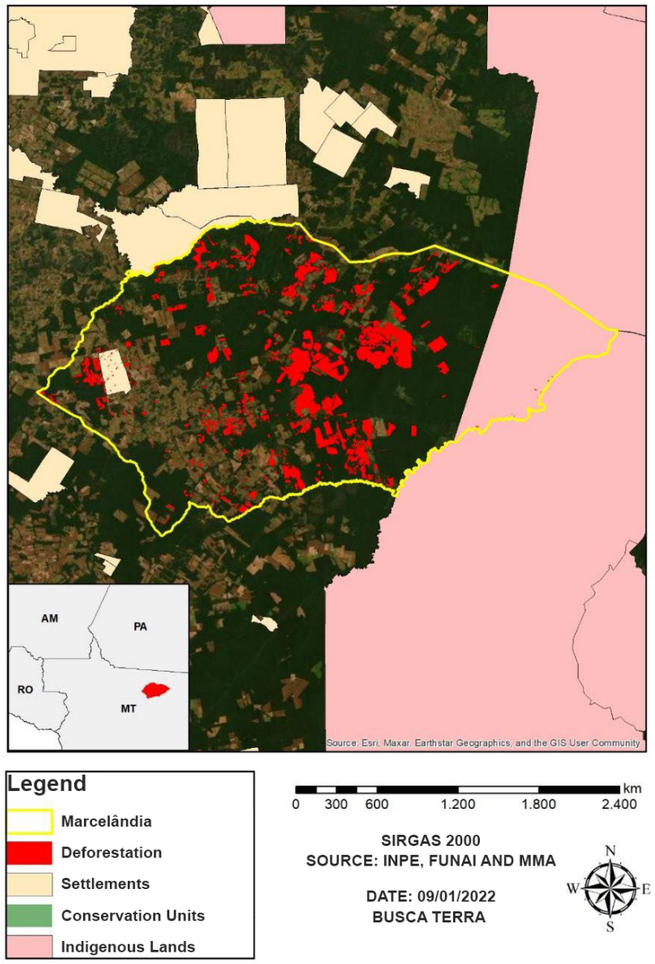
1. PROJECT SUMMARY

The Recovering Marcelândia project covered the entire municipality of Marcelândia, which has an area of 6,994 km2. It is part of the set of projects focused on supporting municipalities that have in common a high rate of deforestation and are located in the region known as the "Areas under intense pressure for deforestation".[40] (Figure I)

The project is one of the first initiatives of the Municipal Secretariat of Environment and Tourism of Marcelândia, which was created in December 2009. Its creation comes as a response from the Municipality of Marcelândia – MT, when, in 2008, the municipality was included, by the Ministry of the Environment, in the list of those that most deforested within the scope of the Brazilian Amazon.

40 Terms of Reference.

Figure I: Land occupation and use in Marcelândia



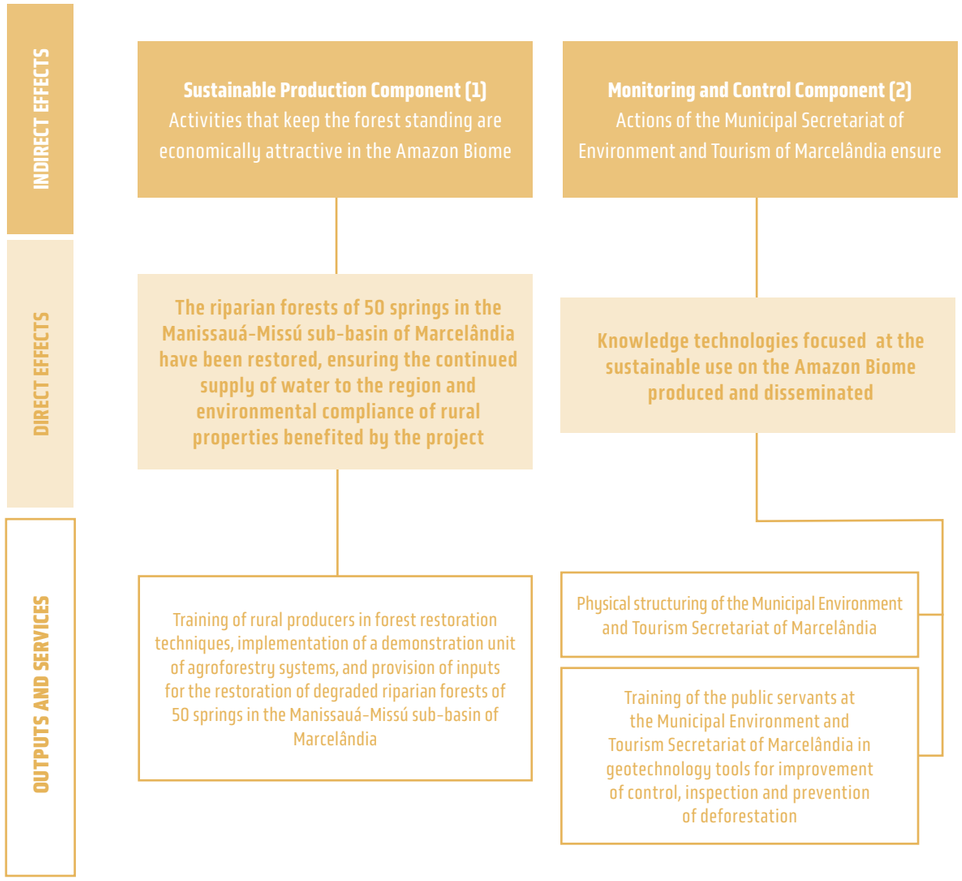
Source: Map prepared by consultants (2022)

Thus, the intervention supported by the Amazon Fund sought to provide a set of instruments to support environmental management actions and projects with a focus on combating deforestation. With this, Recovering Marcelândia enabled the physical and operational structuring of the Municipal Secretariat of Environment and Tourism of Marcelândia in order to acquire goods and equipment, such as vehicles, computer and technology materials.

2. INTERVENTION LOGIC

In the Amazon Fund's Logical Framework (Figure II), the Recovering Marcelândia project is included in the Sustainable Production (1) and Monitoring and Control (2) components.

Figure II: Logical Framework Objectives Diagram of the PQGA



Source: Consultants' own elaboration based on the Amazon Fund/BNDES

3. METHODOLOGY

The entire methodological process used in this effectiveness evaluation of the *Recovering Marcelândia* project includes the set of criteria already described in item 3 (Applied Methodology) of the main report of this thematic evaluation, based on the criteria of the Organization for Economic Cooperation and Development (OECD). The OECD's definition of these criteria is intended to support consistent and high-quality evaluation by providing a normative framework for determining the merit or value of an intervention, be it a public policy, strategy, program or project.

A field mission was carried out to the municipality of Marcelandia, at which time interviews were carried out with the technical team responsible for the preparation and implementation of the project in 2011, as well as with the current Municipal Secretary of the Environment and Tourism and their team. At this stage, visits were also made to some properties covered by the project.[41]

In addition to the Secretariat team, the technician responsible for monitoring and monitoring the project with the National Bank for Economic and Social Development (BNDES) was also interviewed.

To assess deforestation in the implementation area of the project, analyses were carried out based on PRODES data. The secondary and documentary data of the project *Recovering Marcelândia*, which are in the information base of the Amazon Fund/BNDES, were also used as a methodological element.

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41 OECD. Applying Evaluation Criteria Thoughtfully. In: OECD Publishing (Ed.), Applying Evaluation Criteria Thoughtfully. 2021. Available at: https://doi.org/10.1787/543e84ed-en

4. EVALUATIONS OF RESULTS

4.1. Indirect Effects: Sustainable Production Component – Activities that keep the forest standing are economically attractive in the Amazon Biome

The municipality of Marcelândia has an area of 12,285.49 km², of which 0.141 km² are under conservation units (CUs) – a small urban municipal park – and 1,438.74 km2 (11.68% of its territory) are Indigenous Lands (IL), in the Xingu National Park.

It is a community where soybean farming is rapidly advancing. This advance is taking place not only over pastureland, but also over native forest, so much so that deforestation has exceeded 180 km2 between 2021 and 2022.

Regarding the Rural Environmental Registry (CAR), Table I presents a description of the current situation in Marcelândia. It is important to note that most have not yet been evaluated by government institutions. With the advance of the CAR, it is possible to analyze each property and identify the causes of deforestation as well as those possible responsible for it.

Table I: Rural Environmental Registry Figures for Marcelândia

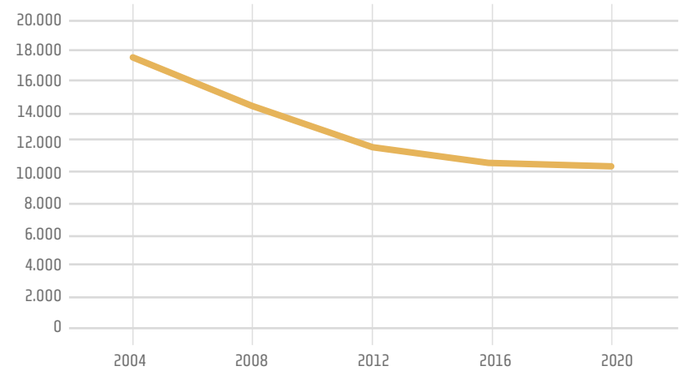
State	Municipality	Municipal area (km²)	Number of CARs	Total Area (km²)	Difference in Areas (km²)
MT	Marcelândia	12.285	1.752	9.401,86	2.883,63

Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon prepared by the consultants (2022)

The reason for the Amazon Fund's financing of the Recovering Marcelândia project took place in a context of high deforestation rates. At the time of its preparation, Marcelândia was listed, in accordance with Ordinance No. 28/2008 of the Ministry of Environment as one of the priority municipalities for actions to prevent, monitor and control deforestation.

At that time, the entire municipality was affected, as the two main economic activities were based on the exploitation of the forest and were related to extensive cattle ranching and illegal logging. Even in this period, all the productive activities of the timber industry chain had to be paralyzed. The interviewees reported that unemployment in the municipality reached unprecedented levels and that the population decreased after the implementation of Operation Curupira, which is confirmed by the IBGE estimate that the population decreased by 40% between 2004 and 2020. (Figure III)

Figure III: Population of the municipality of Marcelândia (2004 – 2020)



Deforestation in the Amazon, after a strong reduction between 2004 and 2012, began to show a growth trend and has been breaking successive records since 2019[42] , rising in a vertical curve and indicating total uncontrollability.

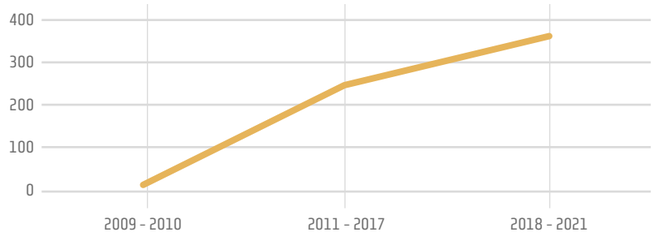
All units of the federation had deforestation alerts detected in 2021. The state of Mato Grosso is currently in third place in

42 GARDOUR, C. Políticas Públicas para Proteção da Floresta Amazônica: O que funciona e como melhorar. Amazônia 2030. Climate Policy Initiative – PUC Rio: Rio de Janeiro. 2021

the national deforestation ranking, with 11.47% of the deforested area[43]. The state also seems to be in third place in the ranking of fires in the Amazon between January and August 2022, with Marcelândia being the fifth municipality with the largest area affected by the fire (31,600 hectares).[44]

The graph in Figure IV includes a deforestation trend data set in the municipality. Seeking to facilitate understanding, the data were aggregated in three periods in relation to the implementation of the *Recovering Marcelândia* project: before the project (baseline), during the execution of the project (2011–2017) and post-project (2018–2022).

Figure IV: Deforestation data (in km2) for the municipality of Marcelândia - MT. Periods: before, during and after the Recovering Marcelândia project



Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon – (2022)

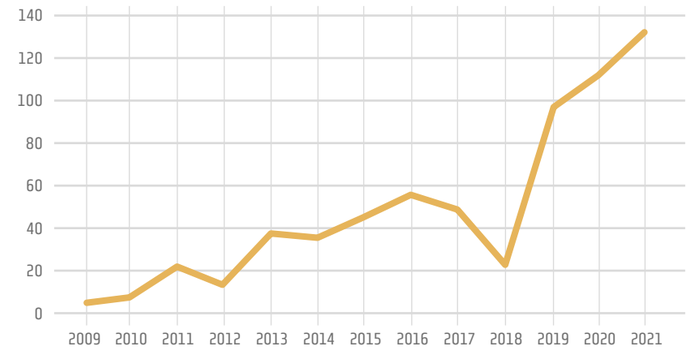
Based on the graph presented, it can be noted that, after the implementation of the project, there was an upward curve in relation to deforestation in Marcelândia, although with less intensity than in the previous period.

43 AZEVEDO, et al. (2022). RAD 2021: Relatório Anual do Desmatamento no Brasil 2021. São Paulo: MAPBIOMAS Alerta. 2022

44 https://portalamazonia.com/amazonia/quase-30-de-queimadas-da-amazonia-legal- aconteceram-no-estado-do-mato-grosso-aponta-icv

The graph in Figure V shows a greater detail of deforestation per year for the municipality of Marcelândia. It can be seen that there was no consistent decrease in deforestation at any time and that there was a very significant increase at the end of the project. According to the interviewees, this period marks a very intense advance of soybeans in the municipality.

Figure V: Deforestation data (in hectares) per year for the municipality of Marcelândia (MT)



Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon – (2022)

An important change generated and which is fully related to the Amazon Fund's objective was that, in 2013, Marcelândia ceased to be part of the list of priority municipalities and became part of the list of municipalities with monitored and under control deforestation[45]. However, the increase in the rate of deforestation in the municipality caused Marcelândia to return to the list of deforesting municipalities of the Ministry of the Environment in 2018 (Decree 428/2018), five years after it had left it. It is important to note that the last list published was in 2021.

45 BRASIL (2021). https://www.gov.br/mma/pt-br/assuntos/servicosambientais/controle-de- desmatamento-e-incendios- florestais/pdf/Listagemmunicpiosprioritriosparaaesdepreveno2021.pdf - accessed on September 10, 2022

4.2. Indirect Effects: Monitoring and Control Component

Monitoring and control policies focused on forest protection in the Amazon are fundamental investments in view of the benefits for reducing deforestation, as well as generating an indirect effect and positive impact on the extension and permanence of vegetation in the Amazon[46].

Thinking about public policies and interventions that can implement and strengthen monitoring and control actions are essential for the protection and maintenance of the standing forest. They are also extremely important to support environmental taxation, with actions to prevent and control deforestation and the mapping of possible environmental crimes[47].

4.3. Direct Effects

Based on the implementation of the Recovering Marcelândia project, some effective results were identified for the municipality and environmental policies. It should be noted that Marcelândia's engagement in an Amazon Fund project was an extension of the municipality's previous experience with Agenda 21, starting in 2005. The municipality then had the opportunity to plan environmental actions and involve part of its population in the discussion of the topic. Furthermore, it also obtained technical help and training offered by the Ministry of the Environment, because there was already great concern at the time about the municipality's vulnerability to environmental inspection, as there were about 290 timber industries and

46 GARDOUR, C. Políticas Públicas para Proteção da Floresta Amazônica: O que funciona e como melhorar. Amazônia 2030. Climate Policy Initiative – PUC Rio: Rio de Janeiro. 2021

47 WAISBICH, L. T.; HUSEK, T.; SANTOS, V. Territórios e caminhos do crime ambiental na Amazônia brasileira: da floresta às demais cidades do país. Rio de Janeiro: Instituto Igarapé Rio, 2022.

the inspection inspection became tougher. Thus, Marcelândia has begun to act in environmental policy having some engagement by its economic elite and with a promising network of collaborators in the federal government and civil society.

The Amazon Fund led to the structuring of the Municipal Secretariat of Environment and Tourism, which included the construction of a nursery of seedlings that would be used to recover the degraded areas identified in the project. Despite these relatively favorable starting conditions, the rigorous environmental inspections, which led to the closure of most of the logging companies, created not only economic difficulties but also great resentment in the municipality. Agenda 21 and the performance of the Instituto Centro de Vida (ICV) in Marcelândia were seen as factors that attracted inspection and, therefore, caused the economic collapse.

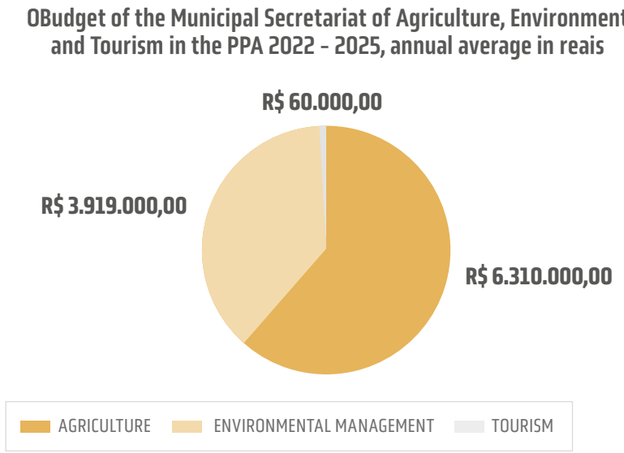
At the end of the project, the City Hall interrupted the work of production and free distribution of seedlings, which was very much demanded by the population. It is worth noting that the municipality still has great environmental liabilities, concentrated in large properties, which were not the priority target of the *Recovering Marcelândia* project.

The CAR of the municipality was prepared by a private company, which limited the construction of local capacity to monitor and control land use, and the Secretariat was unable to train for the decentralization of environmental licensing. As such, the municipality of Marcelândia had limited advances. According to an independent consultant working in the municipality, after the beginning of the inspection by the State Environment Secretariat (SEMA) of Mato Grosso, many CAR registrations were canceled due to irregularities and, mainly, due to non-compliance with the terms of adherence to the Environmental Recovery Program (PRA).

The Municipal Environment and Tourism Secretariat became the Municipal Agriculture, Environment and Tourism Secre-

tariat after the end of the project and currently has resources included in the Multiannual Plan (PPA) 2022 – 2025 distributed in Environment, Agriculture and Tourism activities. The graph in Figure VI shows the quantitative distribution of resources. The importance of actions in agriculture is clear, as well as the marginal role of tourism.

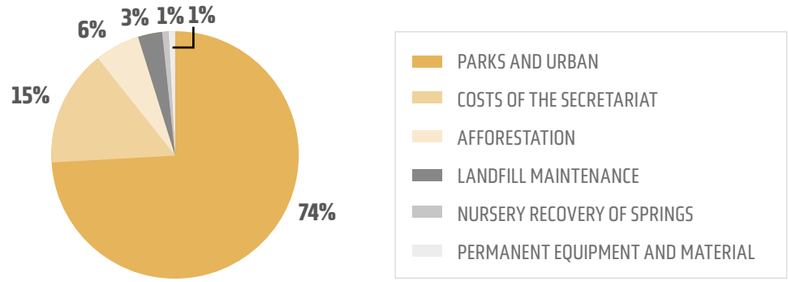
Figure VI: List of actions, programs and resources in the Municipal PPA



Source: Consultants' own preparation based on the Multiannual Plan of the Municipality of Marcelândia – MT

A breakdown of the budget projected in the PPA shows that the Municipal Secretariat of Agriculture, the Environment and Tourism has as a high priority the structuring of the Urban Municipal Park and the afforestation of the city, an activity that will receive 73% of the resources. The second largest budget is for the costing of the administrative structure (15%), followed by the installation and maintenance of the landfill (6%). Actions directly or indirectly linked to the Amazon Fund's objectives – maintenance of the municipal nursery and recovery of degraded areas – together they will receive 10% of the environmental budget between 2022 and 2025. (Figure VII)

Figure VII: Allocation of resources from the environmental area, per priority action, as a proportion of the area's total budget



Source: Consultants' own elaboration from the Multiannual Plan of the Municipality of Marcelândia – MT

5. MANAGEMENT AND MONITORING

A positive point identified in the *Recovering Marcelândia* project was the interaction of the team of the municipality of Marcelândia with the technicians who were already implementing and had extensive experience with projects of the municipal secretariats of Alta Floresta – MT and Carlinda – MT.

The municipality also articulated with the ICV, a non-governmental organization in the environmental area that is very active in the north of Mato Grosso. This partnership focused on the identification and mapping of the municipality's degraded areas, a work that served as the basis for the proposed recovery of 50 children submitted to the Amazon Fund. However, the intensification of inspections in the community has caused the ICV in particular, and NGOs in general, to be viewed with suspicion by the local business elite, causing serious damage to this partnership.

The project also suffered from the change of mayor and municipal secretaries in 2013.

6. CONCLUSION

The *Recovering Marcelândia* project aimed to generate a strengthening for municipal environmental management, based on the physical and operational structure of the Municipal Environment and Tourism Secretariat, as well as to promote the recovery of 50 degraded springs in the basin that supplies the urban area of the municipality. Both objectives were achieved in terms of implementation.

Regarding the structuring of the Secretariat of Environment and Tourism, there was a merger with the Agriculture portfolio. Thus, local capacity building was compromised. Proof of this is that the City Hall did not request the decentralization of environmental licensing, something that would require more investments, particularly in human resources. Regarding the second objective, it was achieved, but the project has not continued since then and the distribution of seedlings was interrupted. The changes in mayor contributed to this disruption.

Marcelândia did not have very favorable institutional conditions for the sustainability of the project. The municipality deeply felt the impact of command and control operations that paralyzed and eventually eradicated timber activity in the region. The ICV, very close and valued partner by several municipal governments in the north of Mato Grosso, began to be viewed with suspicion by the local population after the beginning of the inspection. Likewise, the experience of building the local Agenda 21, which could be a positive starting point for a local policy agenda, was also repudiated as a reaction to repressive measures.

Despite the adversities, the recovered areas have an important demonstrative effect. The owners who engaged in the project value the recovery of their springs and know the service they provide, mainly by increasing the availability of water for livestock. One issue that arose at the time of the field visits is whether small-scale livestock systems will survive, as soybeans advance very intensely in the territory and do not need these sources of water.

According to the criteria recommended by the OECD, the results of the Recovering Marcelândia project presented in Chart I were achieved.

CHART I: OECD evaluative criteria of the Recovering Marcelândia project

Criteria	Results
Relevance	The Recovering Marcelândia project was extremely relevant at first, as it allowed the municipality to leave the list of priority municipalities for deforestation control. The motivation that led to the support for this project is still valid today, given that, in the last year, there was an increase in the deforestation rate in the municipality. However, federal policies no longer induce municipal governments to engage in combating deforestation.
Efficiency	It was a low cost project that, from its implementation, generated a set of capacities and institutional strengthening of the Municipal Environment and Tourism Secretariat for the formulation and implementation of some municipal public policies focused on the environment.
Efficacy	The project reached the goal of recovering 50 springs. However, the georeferenced points were not made available for the analysis of the recovery evolution. In the interviews, it was pointed out that the advance of soybeans in some farms hindered the regeneration of these areas. It was effective in removing Marcelândia from the list of priority municipalities. However, after the project ended, it was once again listed as one of the municipalities in which deforestation advances most intensely.
Impact	Unable to identify impact
Sustainability	The structuring of the Secretariat was not sustained after the end of the project. The remaining structure was used primarily in actions aimed at agriculture.

7. RECOMMENDATIONS

	Recommendations	Executors	States	Amazon Fund	Federal Gov.	Municipal Gov.	Donors
Direct effect	Resume actions to preserve water-courses and revitalize springs in deforested areas					■	■
	That the municipal management could create a technical career focused on environmental policy within the administrative structure					■	
	Engage in decentralization of environmental licensing		■			■	
	That municipalities could transform their projects and programs into public policies and thereby avoid discontinuity processes when governments change.					■	
	Resumption of the actions of the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm)				■		

8. CANCUN SAFEGUARDS (REDD+)

Safeguard	Complies	Note
1. Actions complementary to or consistent with the objectives of national forestry programs and other relevant international conventions and agreements		
Are the projects aligned with the PPCDAm and the state plans for deforestation prevention and control?	YES	It was executed in line with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm), as the municipality was included in the list of those most deforested in the country.
To which other federal public policies or international agreements have the projects demonstrated alignment? In which aspects?	YES	It is in line with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm), as the municipality was included in the list of those most deforested in the country.
Did the project contribute or have the potential to contribute directly or indirectly to reducing emissions from deforestation and forest degradation? In what way?	IN PART	The recovery of 50 springs is important but the recent deforestation dynamics in the municipality makes this value insignificant.
2. Transparent and effective national forest governance structures, with a view to national sovereignty and national legislation		
To what extent have the projects promoted articulation between various actors (public sector, private sector, third sector or local communities)? Were shared governance bodies used? Which ones?	NO	The municipality broke off its collaboration with the ICV.
To what extent have the projects contributed to strengthening public instruments and forest and territorial management processes?	NOT APPLI-CABLE	
3. Respect for the knowledge and rights of indigenous peoples and members of local communities, considering relevant international obligations, national circumstances and laws and noting that the UN General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples		
To what extent have the projects influenced the constitutional rights associated with the possession and formal destination of land in its area of operation?	NOT APPLI-CABLE	
To what extent have the projects influenced the sustainable use of natural resources in their area of activity?	IN PART	In a transversal and indirect way in the few properties where springs have been successfully recovered.
If the projects had indigenous peoples, traditional communities or family farmers as direct beneficiaries: were their socio-cultural systems and traditional knowledge considered and respected throughout the projects?	NOT APPLI-CABLE	
Are there effects that interfere with the traditional way of life of these groups? What kind of effects: on social, economic organization or the use of available spaces and resources? How do they interfere: positively, negatively, or both?	NOT APPLI-CABLE	
4. . Full and effective participation of stakeholders, in particular indigenous peoples and local communities, in the actions referred to in paragraphs 70 and 72 of Decision 1/CP 16		
How did the projects ensure the prior consent and the local/traditional way of choosing the representatives of their beneficiaries (especially indigenous peoples and traditional communities)?	NOT APPLI-CABLE	
What participatory planning and management tools did the projects apply during planning and decision making?	NOT APPLI-CABLE	
In case of projects with economic purposes: were any benefits arising from the projects accessed in a fair, transparent and equitable manner by the beneficiaries, avoiding a concentration of resources?	NOT APPLI-CABLE	

Safeguard	Complies	Note
To what extent have the projects provided the general public and their beneficiaries with free access and easy understanding to information related to project actions?	IN PART	Little information available on the city's website.
Were the projects able to put together a good system for monitoring results and impacts? Did the projects systematically monitor and disseminate the results achieved and their effects?	NOT APPLI-CABLE	
5. Actions consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70, Decision 1/CP 1648 [48] are not used for the conversion of natural forests, but rather to encourage the protection and conservation of natural forests and their ecosystem services and to enhance other social and environmental benefits		
How did the projects contribute to the expansion or consolidation of protected areas?	NOT APPLI-CABLE	The municipality does not have protected areas in its territory.
How did they contribute to the recovery of deforested or degraded areas?	NOT APPLI-CABLE	
In the case of restoration and reforestation activities, did the methodologies used prioritize native species?	NOT APPLI-CABLE	
To what extent did the projects contribute to establishing recovery models with an emphasis on economic use?	NOT APPLI-CABLE	
6. Actions to address the risks of reversals in REDD+ results		
What factors pose risks to the permanence of REDD+ results? How did the projects approach them?	NOT APPLI-CABLE	
7. Actions to reduce the displacement of carbon emissions to other areas		
Was there a shift of emissions avoided by project actions to other areas?	NOT APPLI-CABLE	

48 Decision 1/CP 16: Reduction of emissions from deforestation; reduction of emissions from forest degradation; conservation of forest carbon stocks; sustainable forest management and increase of carbon stocks

9. TRANSVERSAL CRITERIA

Transversal Criteria	Complies	Note
Poverty Reduction		
To what extent have the projects contributed effectively to economic alternatives that value standing forest and sustainable use of natural resources?	YES	For valuing the role of vegetation in water production.
To what extent have the projects positively influenced poverty reduction, social inclusion and improvement in the living conditions of beneficiaries living in their area of activity?	NOT APPLI-CABLE	
The projects have been able to promote and increase the production in the value chains of both timber and non-timber forest products, sourced from sustainable management?	NOT APPLI-CABLE	
Gender equity		
The project has had some overall results and impacts on gender issues.	NOT APPLI-CABLE	
How did the project contribute to gender equity?	NOT APPLI-CABLE	
Articulation of Public Policies		
Was it possible to articulate the project with public policies of territorial and state scope ?	IN PART	Indirectly, with the Forest Code.
Food and Nutrition Security		
Did the project contribute to the nutritional food security of the beneficiaries?	NOT APPLI-CABLE	
Was the project able to include beneficiaries into food and nutrition security policies and programs?	NOT APPLI-CABLE	

Evaluation 6

New Paths in Cotriguaçu Project

Organization responsible: City Hall of Cotriguaçu	**Project period:** 2014 – 2020	**Beneficiaries:** Local population
Territorial scope: Municipality of Cotriguaçu	**Total project value:** R$1,567,845.25	**Value of support from the Amazon Fund:** 100% of the total

Objective:

Support the strengthening of environmental management in the municipality of Cotriguaçu through the following actions:

- construction and physical structuring of the headquarters of the Municipal Environment Secretariat;
- recovery of degraded permanent preservation areas (PPAs) in rural properties of up to four fiscal modules and around water bodies in public areas; and
- deployment of demonstration units for recovery and pasture management

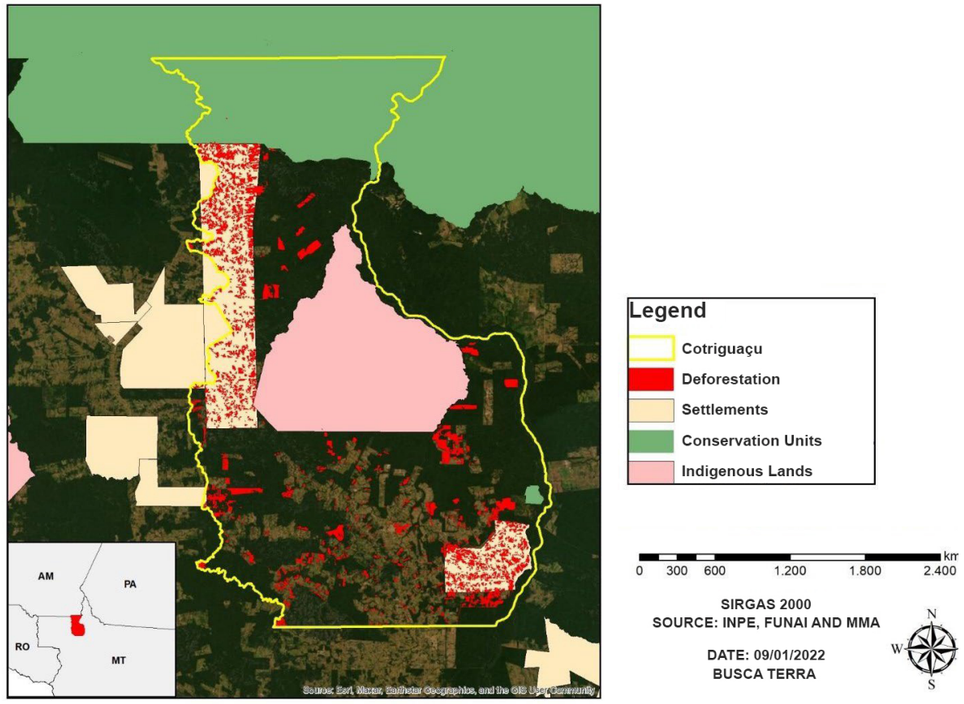
Source: Form prepared from the adaptation of information from the website of the Amazon Fund/BNDES

1. PROJECT SUMMARY

The New Paths in Cotriguaçu Project covered the entire municipality of Cotriguaçu, which is 9,469.957 km², with its implementation starting in 2014 and its completion in 2020. (Figure I)

The project began to be thought and elaborated in 2010 and 2011, after the inclusion of this municipality, in 2008, in the priority list of the Ministry of the Environment, due to the high rate of deforestation in the municipal area. It was a time of immense challenges mainly due to economic restrictions for the main productive activities of the municipality. This was a period with the imposition of a series of sanctions and restrictions that ranged from the intensification of the command and control policy, with the increase in inspection, to the application of economic instruments through limitation

Figure I: Territorial scope of the New Paths in Cotriguaçu Project



Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon – (2022)

of rural credit for properties that did not yet have the Rural Environmental Registry (CAR)[49].

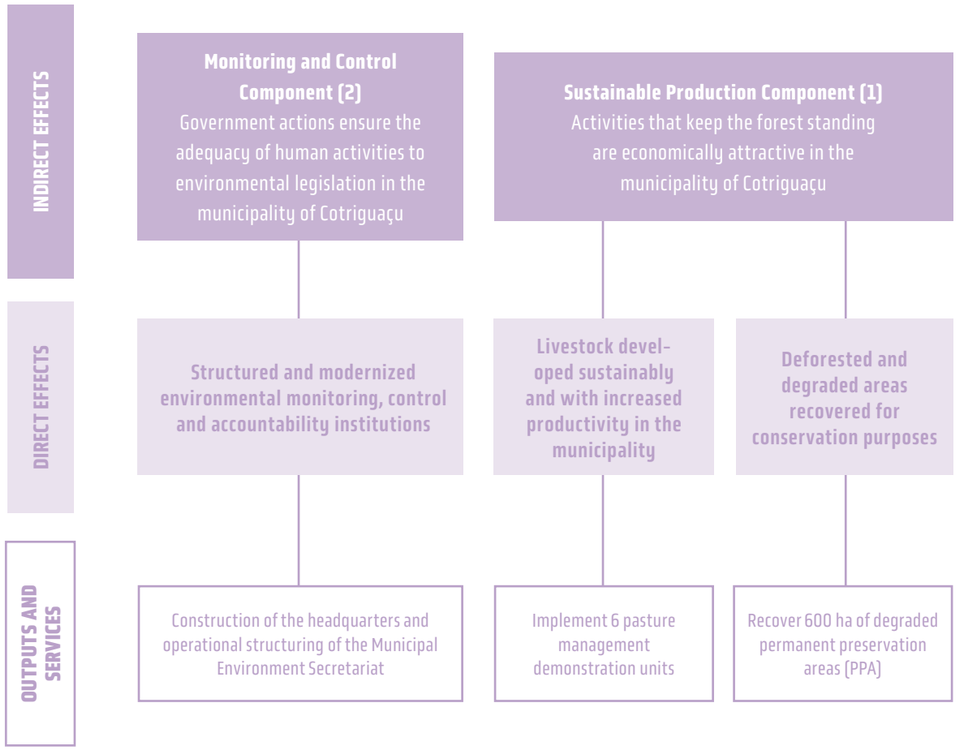
The project supported by the Amazon Fund aimed to support the strengthening of municipal environmental management through the construction of a physical infrastructure for the headquarters of the Municipal Environment Secretariat, to carry out the recovery of permanent preservation areas (PPAs) that were in degradation processes in rural properties of up to four fiscal modules and around water bodies in public areas and to implement demonstration units for recovery and pasture management.

49 FERREIRA NETO, P. S. Municípios sustentáveis: construindo caminhos para uma gestão compartilhada do território. Cotriguaçu–MT: ICV, 2015.

2. INTERVENTION LOGIC

In the Amazon Fund's Logical Framework, the *New Paths in Cotriguaçu* Project is included in two components: Sustainable Production (1) and Monitoring and Control (2). (Figure II)

Figure II: Logical Framework Objectives Diagram of the New Paths in Cotriguaçu Project



Source: Consultants' own elaboration based on the Amazon Fund/BNDES

3. METHODOLOGY

The entire methodological process used in the effectiveness evaluation of the New Paths in Cotriguaçu project includes the set of criteria already described in item 3 (Applied Methodology) of the main report of this thematic evaluation, based on the criteria of the Organization for Economic Co-operation and Development (OECD). The definition of these criteria by the OECD has great value, as it does not only consider the parameters of economic efficiency based on econometric and budgetary models, but also includes other evaluative dimensions, starting with relevance.[50]

A field mission was carried out to the municipality of Cotriguaçu, at which time interviews were carried out with the technical team responsible for the preparation and implementation of the project and which, to date, still remains in the Municipal Environment Secretariat. At this stage, visits were also made to the areas in which the project implemented intentions for the recovery of permanent preservation areas (PPAs).

To assess deforestation in the project implementation area, analyses were carried out based on PRODES data. The secondary and documentary data of the New Paths in Cotriguaçu project, which are found in the information base of the Amazon Fund/BNDES, were also used as a methodological element.

50 JANNUZZI P. DE M. Economia política e avaliação em políticas públicas no Brasil pós-2014. Cadernos Saúde Coletiva, p. 1-12, 2021

4. EVALUATION OF THE RESULTS

4.1 Indirect Effects: Sustainable Production Component – activities that keep the forest standing are economically attractive in the municipality of Cotriguaçu

The municipality of Cotriguaçu has its economy based on the extractivism of wood and livestock activities, which have had a huge expansion in recent decades. The process of creation and occupation of the territory where the municipality is now constituted took place from a set of attempts, based on partnerships between the Government of the State of Mato Grosso and cooperatives, which did not work.[51]

The issue of deforestation in the municipality had high significance between 2001 and 2005, with about 10% of its territory being opened. Due to this challenging context, in 2008, Cotriguaçu started to compose the list of priority municipalities for deforestation control actions in the Brazilian Amazon52[52]. In 2008, the deforestation rate reached 77.03 hectares in the municipality.

Deforestation in the Amazon, after a strong reduction between 2004 and 2012, started to show a growth trend and has been breaking successive records since 2019. This is caused by a combination of factors that include both the exhaustion and disruption of some current public policies and the weakening of the institutional context for conservation policies in the country[53]. As a result, there has been an ascent in a vertical curve that indicates total lack of control of deforestation for the region in the coming years.

51 FERREIRA NETO, P. S. Municípios sustentáveis: construindo caminhos para uma gestão compartilhada do território. Cotriguaçu-MT: ICV, 2015.

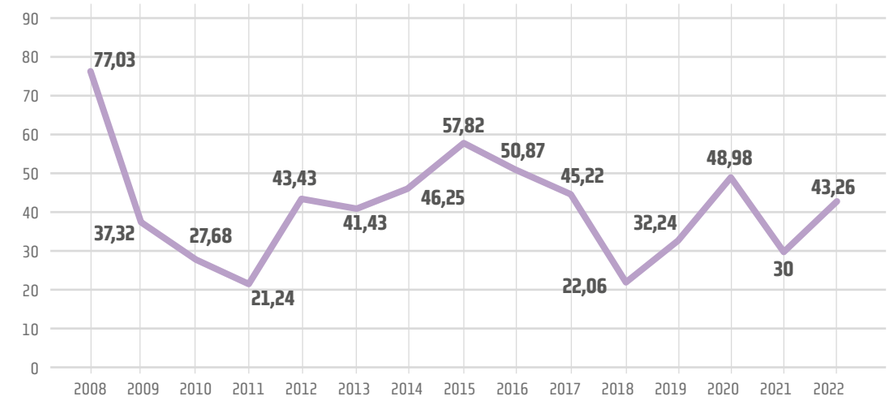
52 Ibidem

53 GARDOUR, C. Políticas Públicas para Proteção da Floresta Amazônica: O que funciona e como melhorar. Amazônia 2030. Climate Policy Initiative – PUC Rio: Rio de Janeiro. 2021

In 2021 alone, the Amazon had its largest forest loss since 2006.[54] All units of the federation had deforestation alerts detected in 2021, and the state of Mato Grosso is currently in third place in the national ranking, with 11.47% of deforested area.[55]

Bringing to the reality of the municipality of Cotriguaçu, the graph in Figure III includes a deforestation trend data set. Based on the graph, it can be noted that in the final two years of project implementation (2019 and 2020), there was an increase in deforestation in the municipality. In the first year, after the completion of the project (2021), there was a decrease in the deforestation rate and, now in 2022, with the available data, it is possible to identify a new increase in deforestation in Cotriguaçu.

Figure III: Deforestation data (in hectares) per year for the municipality of Cotriguaçu – MT



Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon – (2022)

54 NAKAGAWA, L. *et al*. Governança Florestal e Transição Sustentável na Amazônia: Desafios e Oportunidades. Cebrap Sustentabilidade – Resumo da Política, p. 1-7, 2022

55 AZEVEDO, *et al*. (2022). RAD 2021: Relatório Anual do Desmatamento no Brasil 2021. São Paulo: MAPBIOMAS Alerta. 2022

The municipality of Cotriguaçu has three protected areas: the Escondido Indigenous Territory, the Juruena Igarapés State Park and the Juruena National Park[56]. It also has a Private Natural Heritage Reserve. Among the municipalities included in this thematic evaluation of municipal projects supported by the Amazon Fund, it is the one with the largest protected territory in relation to its area. (Table I)

Table I: Protected area data in the municipality of Cotriguaçu

Municipality	Total Area	Indigenous Lands (%)	Conservation Unit (%)	Other Uses (%)
Cotriguaçu	9.469,96	17,76	14,66	55,48

Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon – (2022)

No deforestation was identified in the protected areas of the municipality. However, the challenge is still very great in relation to the settlements that had an important contribution in the increase in deforestation. It is important to note that the settlement areas were not the object of the project's action.

This reality of deforestation in settlement areas in the Amazon does not differ from other municipalities in the region. In the Amazon biome, the highest concentration of deforested area in rural settlements was presented.[57]

Regarding the Rural Environmental Registry (CAR), Table II presents a description of the current situation in the municipality. The CAR has been a tool that has supported the municipality to identify properties and identify the causes of the deforestation as well as those possible responsible for it. It is important to note that most CAR have not yet been evaluated by government institutions.

Table II: Rural Environmental Registry Figures for the Municipality of Cotriguaçu

State	Municipality	Municipal area (km²)	Number of CARs	Total Area (km²)	Difference in Areas (km²)
MT	Cotriguaçu	9.470	1.491	5.927,56	3.542,45

Source: Analysis of deforestation trends in the areas of municipal support projects in the Amazon – (2022)

It is evident to the technical team of the Municipal Environment Secretariat that the implementation of the New Paths in Cotriguaçu Project was fundamental for the municipal administration to reflect on the problem of deforestation in the municipality. From then on, we thought about designing a project that would meet the practical and strategic needs of reducing deforestation and implementing a sustainable development strategy in the municipality.

The project was relevant to reducing deforestation, as it worked to recover native vegetation and implement a sustainable pasture management technique. These two fronts are important contributions to increasing the area of forests.

Increasing the efficiency of pastures is a factor in avoiding deforestation, and some of the expected effects of this result are the maintenance of the fertility of pastures and the greater production capacity per area, reducing the pressure on forest.[58]

56 AZEVEDO, et al. (2022). RAD 2021: Relatório Anual do Desmatamento no Brasil 2021. São Paulo: MAPBIOMAS Alerta, 2022.

57 FERREIRA NETO, P. S. Municípios sustentáveis: construindo caminhos para uma gestão compartilhada do território. Cotriguaçu–MT: ICV, 2015.

58 FERREIRA NETO, P. S. Municípios sustentáveis: construindo caminhos para uma gestão compartilhada do território. Cotriguaçu–MT: ICV, 2015.

Thus, a project that includes the recovery of degraded areas and the implementation of a sustainable pasture management technique contributed substantially to the creation of a positive scenario, in order to strengthen and recover already deforested areas and to develop sustainable strategies and valorization of the standing forest.

In the testimony of a technician who worked on the implementation of the project, the impact of this strategy is explicit:

> at the beginning of the project, it was the technicians of the municipal secretariat who identified the areas and the beneficiaries of the project. From the second year, the situation was reversed, as it was the beneficiaries themselves who sought out the technical teams wanting to recover the areas of rivers and springs.[59]

Thus, for a period – during implementation and post-implementation – the project initiatives were able to support the reduction of deforestation in the municipality.

4.2. Indirect Effects: Monitoring and Control Component (2) – government actions ensure the adequacy of human activities to environmental legislation in the municipality of Cotriguaçu

Government managers, whether at the federal or subnational level, have as one of their tasks to try to ensure that public policy guidelines can be implemented within the scope of their governments and in some way affect the way their technicians and managers carry out these interventions.

59 Testimony of a technician in an interview carried out during the field mission. August 2022

Since the 1988 Constitution, several normative instruments have included measures to decentralize tasks, both for states and municipalities, in relation to the implementation of environmental policies. Within the logic of cooperative federalism, public environmental policies are included among the matters of concurrent competence. This means that the Federal Government, states, Federal District and municipalities, that is, all federative entities, have obligations in this regard in terms of public policies and legislation[60]. This competitive scenario has brought advances and challenges in the field of these public policies.

The National Environmental System is composed of municipal environmental agencies together with state and federal agencies. Currently, most municipalities – in some way – have a minimum of institutional framework to deal with environmental attributions, but this reality has not always been that wao.[61] Esse cenário competitivo trouxe avanços e desafios no campo dessas políticas públicas.

There is a socioeconomic and institutional disparity between the various Brazilian municipalities. This inequality confirms the main institutional dilemma in the treatment of deeply unequal entities, the so-called asymmetric federalism.[62] With regard to public environmental policy, the asymmetry is even stronger, since most municipalities have a huge institutional vulnerability linked to a low state capacity to formulate and implement public environmental policies.

These challenges range from dealing with the environmental issue at the municipal level, in which the environment is treat-

60 ARAÚJO, S. M. V. G DE; VIANA, M. B. Federalismo e meio ambiente no Brasil. Cadernos ASLEGIS, no. 37, p. 70-87, 2009

61 ARAÚJO, S. M. V. G DE; VIANA, M. B. Federalismo e meio ambiente no Brasil. Cadernos ASLEGIS, nº 37, p. 70-87, 2009

62 LEME, T. M. Governança Ambiental no Nível Municipal. In: MOURA, A. M. M. (Org.) Governança Ambiental no Brasil: instituições, atores e políticas públicas. Brasília: IPEA, 2016

ed sometimes in a specific agency, sometimes in conjunction with other topics (technology science, infrastructure, tourism, agriculture, sustainability). This stems mainly from the endless discussion about the type of structure most suitable for the incorporation of the environmental variable in public policies, which is the constitution of a specific entity or the transversalization of the issue in other governmental structureo.[63]

Thus, promoting environmental management in municipalities requires an administrative structure, personnel, political negotiation space, creation of legislation and, above all, budgetary resources.[64]

The *New Paths in Cotriguaçu* project has as one of its indirect effects the implementation of governmental actions that ensure the adequacy of human activities to environmental legislation in the municipality of Cotriguaçu. The existence of a minimum structure for the implementation of public environmental policies is an important support mechanism for the creation, at the municipal level, of a minimum agenda of interventions and strategies focused on the themes of conservation, environmental restoration, command and control, and combating deforestation.

A good structure focused on municipal environmental policies can generate positive agendas, such as planning actions, environmental education and tax policy to encourage sustainable forms of production. Furthermore, there are other actions that this structure can take, such as those of the command and control type, with regard to activities that require licensing, and monitoring and inspection, for which police power is exercised. They may still be responsible for the conservation and recovery of ecosystems, conservation units, parks, gardens and environmental recovery in rural areas. Finally, they deal with the internal administrative actions necessary to provide this set of attributions.[65]

As such, the New Paths in Cotriguaçu project can contribute to the availability, to the municipality, of a set of elements that have been fundamental to support the activities of programs and projects focused on the environmental theme in the municipality. Without this support, it would be difficult for Cotriguaçu, at that time of the challenges imposed for a municipality with a high rate of deforestation, to implement a functioning structure for a Municipal Environment Secretariat.

4.3. Direct Effects

Initially, a total of six pasture management demonstration units were planned for direct impact in terms of sustainable livestock development and increased productivity in the community. For this indicator, 66.6% of the forecast was achieved with the deployment of four units. In the project implementation process, there was a need for adjustments seeking to maximize the efficacy of the project. But despite the changes, the project was not able to achieve the entire goal.

If only the achievement of the goal is used in consideration, the efficacy criterion has not been met. However, the Amazon Fund itself describes on its

> website that, despite the partial result in the number of demonstration units (DUs), the increase in efficiency observed in the DUs implemented is a positive sign of the importance of this type of action, which brings to the territory new models of land use that favor

63 NEVES, E. M. S. C. Política ambiental, municípios e cooperação intergovernamental no Brasil. Estudos Avancados, v. 26, n. 74, p. 137–150, 2012.

64 ARAÚJO, S. M. V. G DE; VIANA, M. B. Federalismo e meio ambiente no Brasil. Cadernos ASLEGIS, nº 37, p. 70-87, 2009

65 Ibidem

the densification of production rather than the pattern of opening up new areas.[66]

Based on the experience with the project, it was possible that Cotriguaçu could access other strategies focused on this same component related to sustainable production. With the completion of the *New Paths in Cotriguaçu* project, the strategy focused on the development of sustainable livestock and the implementation of a pasture management strategy started to be carried out from the PCI *Vale do Juruena* project, which is under implementation in the municipality of Cotriguaçu. In line with the PCI Vale do Jurena, the *Sustainable Calf Production Program* is being implemented in the municipality.

The goals for the livestock area are to recover 121,608 hectares of degraded pastures, increase production by 20% of meat, increase the area of degraded pastures by 2,000 hectares and increase by 10% the areas with sustainable forest management plans by 2023.[67]

Regarding the recovery of permanent preservation areas, the *New Paths in Cotriguaçu* project aimed to recover 600 hectares, and, as well as the direct effect related to livestock, it also failed to achieve the planned result. The total recovered was 134 hectares, which is equivalent to a total of 23.3% of the forecast.

Initially, the project focused on the revitalization of the areas belonging to the 14 Brothers Basin, which is responsible for the water supply of the municipality, and then went to serve the other surplus areas. (Figure IV)

66 FUNDO AMAZÔNIA. https://www.fundoamazonia.gov.br/pt/projeto/Semeando-Novos-Rumos-em-Cotriguacu/ – acesso em 10 de setembro de 2022.

67 MATO GROSSO. https://www.pcimt.org/index.php/pt/regionalizacao-pt/pacto-regional-do-vale-do-juruena – acesso em 15 de setembro de 2022.

Figure IV: Areas revitalized by the New Paths in Cotriguaçu Project

Source: Images taken by consultants during field visits (2022)

Based on the interviews carried out,[68] it was clear that, in order to achieve the goal of the direct effect focused on the recovery of areas, redoubled efforts were required from the team. Some challenges were identified:

- Amendment of environmental legislation, which reduced the areas of PPAs in rural properties;
- Actions were sprayed in several areas of the municipality;
- Some bureaucratic obstacles made it difficult to include new areas within the scope of the project.

In any case, it was a relevant project that managed to generate sustainability in the municipality. During the field mission, we had the opportunity to visit some areas supported by the New Paths in Cotriguaçu Project, as well as three other areas that are the object of the Municipal Program for the Revitalization of Lakes and Springs, which was created from the end of 2020 and which is funded by resources from the Municipal Environment Fund.

68 Systematization of the testimonies collected in the field visit carried out in August 2022.

One of the areas visited was a Public PPA in the central area of the municipality and two other revitalization areas in Planalto I and II. This Public PPA is currently in the process of being transformed into a Municipal Park in the central region of the municipality, and its area was the object of intervention by the project's revitalization strategy. The transformation of this revitalized area into a Municipal Park with a lake, landscaping with native trees, selective collection and leisure equipment demonstrates the project's impact on the local reality. (Figure V)

Thus, from these projects "today there is an awareness in the local population in relation to the preservation of PPA, rivers and springs. That initial resistance from producers, from the time of the Amazon Fund project, no longer exists". [69]

Figure V: PPA revitalized by the New Paths in Cotriguaçu Project and which will be transformed into a Municipal Park

Source: Image taken by consultants during field visits (2022)

69 Testimony of a technician in an interview carried out during the field mission. August 2022.

According to the evaluation criteria recommended by the OECD, the evaluation results of the *New Paths in Cotriguaçu* project, presented in Chart I were reached.

CHART I: Summary of Indicators of the Direct Effects of the Sustainable Production Component (1)

DIRECT EFFECTS: LIVESTOCK DEVELOPED SUSTAINABLY AND DEFORESTED AND DEGRADED AREAS RECOVERED			
Indicator	**Goal**	**Results Achieved**	**Post-project status**
Number of pasture management demonstration units implemented	6	4	The municipality is now part of the PCI Vale do Juruena Project strategy, which is the main intervention focused on sustainable livestock development carried out from the Sustainable Calf Production Program.
Deforested and degraded areas recovered for ecologicalconservation purposes	600 ha	134 ha	The municipality now has a Municipal Program for the Revitalization of Lakes and Springs, financed with its own resources.

Source: Consultant's own elaboration based on the collected data (2022).

Regarding the Monitoring and Control Component (2), as a direct effect of the structured and modernized monitoring, control and environmental accountability institution of the municipality, from the project, it was possible to build the Municipal Secretariat of the Environment. (Figure VI)

Figure VI: Headquarters of the Municipal Secretariat of the Environment of Cotriguaçu financed by the New Paths in Cotriguaçu Project

Source: Image taken by consultants during field visits (2022)

Currently, the structure includes, in addition to the Municipal Environment Secretariat, the Municipal Secretariat for Economic Development, Agriculture and Land Affairs. The two secretariats are headed by the same person. The Secretariat has a technical staff with a forest engineer, biologist, agronomist and a technical team specialized in budgeting and project preparation; these technicians are mostly public servants. Having effective public servants is a positive point for the continuity of public policies.

Poor employment relations lead to some difficulties in strengthening local capacities, since these links lead to higher staff turnover, and several qualification efforts are lost with the departure of employees from city halls.[70]

The project was fundamental for the strengthening of the Municipal Environment Secretariat, since before environmental policies were coordinated by an environment secretariat[71]. In addition to the Municipal Environment Secretariat, the municipality has a Municipal Council for the Environment, which by the way has its own resources.

The members of the Municipal Council were trained from the implementation of an intervention called Cotriguaçu Sempre Verde. Based on these training sessions, the council members started to act effectively. However, "after the Project supported by the Amazon Fund, the council's performance was consolidated and provided the environmental policy governance body with a set of capacities to discuss, propose and plan municipal policies focused on environmental issues".[72]

70 LEME, T. M. Governança Ambiental no Nível Municipal. In: MOURA, A. M. M. (Org.) Governança Ambiental no Brasil: instituições, atores e políticas públicas. Brasília: IPEA, 2016

71 Testimony of a technician in an interview carried out during the field mission. August 2022.

72 Ibidem

The members of the Municipal Council played an important role in monitoring the actions of the New Paths in Cotriguaçu Project. At times when there were needs to change and negotiate the goals proposed in the Project, there was an agreement between the intervention managers and the council members. Whenever there was a need for adjustments to maximize the implementation of the project, these adjustment needs were taken for discussion with the members of the Municipal Council for the Environment. The Council actively participated and there was an articulation between the management and the governance bodies of municipal policies and this was a huge learning experience.[73]

These results are due to incentives for shared environmental management and the encouragement of municipal environmental councils. Initiatives such as these are strategic in promoting local environmental management, ensuring greater accountability, and securing the role of these councils in the deliberation of public policies.[74]

Municipal Policies and Budget

Regarding resources and budgets, it was identified that the municipality has its own allocation for the implementation of municipal environmental programs. In the Municipal Budget Law for 2022, the Environmental Management function was identified and included the following subfunctions:

- General Management;
- Environmental Preservation and Conservation;
- Environmental Control and
- Recovery of Degraded Areas.

73 Ibidem

74 LEME, T. M. Governança Ambiental no Nível Municipal. In: MOURA, A. M. M. (Org.) Governança Ambiental no Brasil: instituições, atores e políticas públicas. Brasília: IPEA, 2016

The budget foreseen for the policies that are included in the Environmental Management function is R$936,460.49. When evaluating the total budget for different municipal public policies, the resources for environmental programs are one of the smallest, second only to leisure and youth policies.

CHART 4: Details of the Projects and Activities Included in the Environmental Management Program in the LDO of the Municipality of Cotriguaçu

Projects and Activities	Values (R$)
Creation of Municipal Ecological Park on the Banks of the River and Preservation	38.890,94
Implementation of Integrated Solid Waste System	47.654,10
Environmental Education	84.069,54
Structuring of the Environmental Inspection Team (Environmental)	10.000,00
Environmental Services Program	9.060,82
Recovery of Permanent Preservation Areas PPAs	10.399,23
Strengthening of Production Chains	10.000,00
Environmental Regularization	9.185,86
Stimulation of Agroforestry for Recovery Apps	12.500,00
Conducting Educational Campaigns (Environmental Awareness)	12.500,00
Prevention of Burning and Deforestation	9.000,00
Municipal Environmental Licensing	11.250,00
Environmental Inspection	10.000,00
Environmental Management and Maintenance	650.700,00
Revitalization of Urban Perimeter Streams	11.250,00
TOTAL	**936.460,49**

Source: Prepared by the consultants based on the data collected (2022).

Based on the analysis of the data and bringing a reflection to the two indicators related to the direct impact of the Sustainable Production component, there is a great challenge. Because the planned values for these actions reach a maximum of 7.8% of the budget. Of the resources provided in the municipal budget, a total of 69.48% is allocated to a general allocation dealing with environmental management and maintenance, followed by environmental education with 8.97% and the implementation of an integrated solid waste system with 5.08%.

Including environmental policies in municipal budgets is an important mechanism for making the financing of these policies more transparent. Furthermore, it is a support tool for municipal environmental policy councils to improve the performance of the application of these resources. [75]

The identification of environmental spending by a government is an important tool for evaluating the relevance of the issue in state agendas, since it is one of the indicators of priorities and commitments made in the pursuit of sustainable development.[76]

A diagnostic of the amount spent and invested in environmental policies is an important understanding of the role of governments in the environmental issue and the position it occupies in the set of public policies, as well as in the dispute between different interests.[77]

Thus, the direct impact, which resulted in the construction of the headquarters of the Municipal Secretariat, as well as the acquisition of equipment and transportation, was achieved

75 LEME, T. M. Governança Ambiental no Nível Municipal. In: MOURA, A. M. M. (Org.) Governança Ambiental no Brasil: instituições, atores e políticas públicas. Brasília: IPEA, 2016

76 MOURA, A. M. M. DE et al. Gastos ambientais no Brasil: Proposta metodológica para aplicação no orçamento federal. Brasília : Rio de Janeiro: Instituto de Pesquisa Econômica Aplicada – Ipea, 2017. v. 1

77 Ibidem

and implemented as foreseen in the project.

It is a consensus among the technical team that implemented the project, from the creation and after the support of the Fund for the structure of the Municipal Environment Secretariat of Cotriguaçu, it was possible for the municipality to start the process of instituting the theme of environmental policies, regardless of factors such as management changes, for example.[78]

5. MANAGEMENT AND MONITORING

This evaluation showed that the implementation of the project was extremely challenging for the technical team. The shortcomings were bureaucratic, as well as in the execution of the project itself, since it was difficult to meet the deadlines and goals set in the project, which forced the realization of new agreements with the Amazon Fund team.

In the initial process, there was a challenge in terms of monitoring the indicators, but during the process a technician was identified to monitor the set of targets.

A strategy used by the technical team was to articulate an effective participation with the members of the Municipal Council for the Environment, to be aware of all the stages and activities that the project was carrying out. As a result, the strategy was positive, as it allowed this governance body to be strengthened to fulfill its role of social control and accountability.

78 Testimony from a technician in an interview carried out during the field mission. August of 2022.

Regarding the communication of the actions carried out, the project had a website that, until recently, served not only as a dissemination strategy but also as a transparency strategy.

It was possible to articulate the implementation of the project with other actions focused on training, conservation and climate policy and combating deforestation that were underway in the community. These interventions were carried out by TNC and ICV.

6. CONCLUSION

The New Paths in Cotriguaçu Project aimed to deploy demonstration units for pasture recovery and management, the recovery of degraded permanent preservation areas (DPPAs) in rural properties of up to four fiscal modules and around water bodies in public areas; and construction and physical structuring of the headquarters of the Municipal Environment Secretariat.

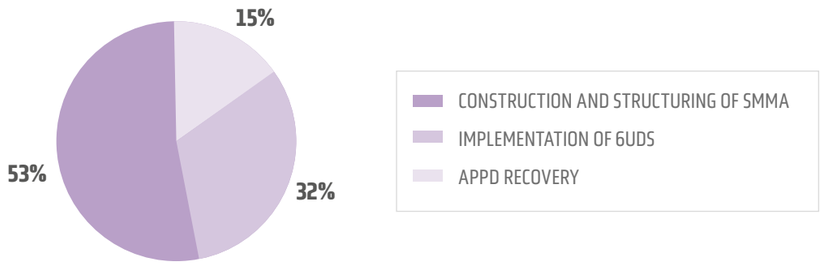
It was a project that took six years and went through three municipal administrations. Undoubtedly, this is a fact to be considered in this evaluation. It well known that changes in municipal governments lead to changes in personnel and changes in the prioritization of issues on the local policy agenda. If the technical team of the project and the Municipal Secretariat were not composed of effective public servants, the challenge for the implementation of the project would be even greater.

A transversal effect positively identified is that from the project, the role of the Municipal Environment Council was consolidated for its activities as a governance agency for environmental policies in the municipality. The participation of the council members in the monitoring of the project, in

the moments of agreement and redefinition of implementation strategies, generated in the group a good capacity to contribute to social control and the improvement of environmental policies.

Evaluating the three project indicators, Gráfico 2 shows the percentage investment in each of the indicators.

GRÁFICO 2: Project Investment Percentage by Indicator



Source: Consultants' own elaboration

On this basis, it can be seen that the APPD recovery indicator accounted for 53% of the project's investment, the most significant percentage. Then the deployment of the demonstration units with 32% and the construction and structuring of SMMA with 15% of investments.

The two indicators that had the largest investments were those that failed to achieve the planned goals. There were many bureaucratic, planning and legislative challenges that prevented the achievement of these goals. In order to achieve the results, one of the strategies that could have been implemented was to redefine the areas of beneficiary properties and include, for example, rural settlements, which are the most deforested properties in the municipality. This would make the project more efficient.

But despite the non-compliance with the efficacy criterion achieved, the project had other gains such as the generation of capacity for the implementation of municipal public policies, currently has a structured municipal secretariat with a technical team to implement environmental policies.

Today the municipality has an instituted Municipal Secretariat and from the project supported by the Amazon Fund, the implementation of municipal public policies for conservation and preservation began. The experience with the New Paths in Cotriguaçu project has advances, but after its completion, challenges are identified, such as a low municipal budget for environmental public policies.

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CHART 5: OECD Evaluative Criteria

Criteria	Results
Relevance	Based on the project, it was possible to include the environmental issue in the municipal agenda to achieve some issues such as environmental licensing, decentralization (without the project, the municipality would have taken longer to include itself in this strategy with SEMA).
Efficiency	Generation of state capacity for the implementation of municipal public policies, it currently has a structured municipal secretariat with a technical team to implement environmental policies. As well as the members of the Municipal Environmental Council to carry out their social control activities and support for municipal environmental policies.
Efficacy	If only the achievement of the goal is used in consideration, the efficacy criterion has not been met. Despite this result, the project managed to bring to the municipality new models of occupation of the property.
Impact	Transformation of a Public PPA that was the object of the revitalization into a Municipal Park with lake, leisure and landscaping equipment with native trees and the revitalization of areas in the area covered by the 14 Brothers Basin, which is responsible for supplying the urban area of the municipality.
Sustainability	Creation and implementation of the Municipal Program for the Revitalization of Lakes and Springs, which was created from the end of 2020 and which is funded by resources from the Municipal Environmental Fund

7. RECOMMENDATIONS

	Recommendations	States	Amazon Fund	Federal Gov.	Municipal Gov.	Donors
Indirect effect	Financing for the implementation of municipal systems for the effective monitoring of deforestation in their areas of coverage	■	■	■	■	■
Indirect effect	Continue with public calls for projects focused on combating deforestation in municipalities	■	■	■	■	
Indirect effect	Projects included in the monitoring and control component that focus on the physical structuring of municipal environmental agencies, which may necessarily have a direct impact on training strategies for technical teams	■	■	■		
Direct ef-fect	Support municipal projects focused on the restoration of Degraded Permanent Preservation Areas (DPPAs)	■	■	■	■	■
General	Increased municipal budget for public policies focused on conservation, preservation and combating deforestation				■	

8. CANCUN SAFEGUARDS (REDD+)

Safeguard	Complies	Note
1. Actions complementary to or consistent with the objectives of national forestry programs and other relevant international conventions and agreements		
Are the projects aligned with the PPCDAm and the state plans for deforestation prevention and control?	YES	In line with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm), as the municipality is included in the list of those most deforested in the country.
To which other federal public policies or international agreements have the projects demonstrated alignment? In which aspects?	YES	It is in line with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm). It is related to the Brazilian Forest Code with regard to PPA.
Did the project contribute or have the potential to contribute directly or indirectly to reducing emissions from deforestation and forest degradation? In what way?	YES	Based on the recovery of a set of degraded areas.
2. Transparent and effective national forest governance structures, with a view to national sovereignty and national legislation		
To what extent have the projects promoted articulation between various actors (public sector, private sector, third sector or local communities)? Were shared governance bodies used? Which ones?	YES	The project had, throughout its implementation process, the involvement of the Municipal Council for the Environment, which is the main governance structure of municipal environmental policies. It established partnerships with the Rural Producers Union, with interventions carried out by the TNC and ICV organizations.
To what extent have the projects contributed to strengthening public instruments and forest and territorial management processes?	NOT APPLI-CABLE	
3. Respect for the knowledge and rights of indigenous peoples and members of local communities, considering relevant international obligations, national circumstances and laws and noting that the UN General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples		
To what extent have the projects influenced the constitutional rights associated with the possession and formal destination of land in its area of operation?	NOT APPLI-CABLE	
To what extent have the projects influenced the sustainable use of natural resources in their area of activity?	YES	Based on the strategy of recovery of springs in the 14 Brothers Basin, which is responsible for supplying the municipality.
If the projects had indigenous peoples, traditional communities or family farm-ers as direct beneficiaries: were their socio-cultural systems and traditional knowledge considered and respected throughout the projects?	NOT APPLI-CABLE	
Are there effects that interfere with the traditional way of life of these groups? What kind of effects: on social, economic organization or the use of available spaces and resources? How do they interfere: positively, negatively, or both?	NOT APPLI-CABLE	
4. . Full and effective participation of stakeholders, in particular indigenous peoples and local communities, in the actions referred to in paragraphs 70 and 72 of Decision 1/CP 16		
How did the projects ensure the prior consent and the local/traditional way of choosing the representatives of their beneficiaries (especially indigenous peoples and traditional communities)?	NOT APPLI-CABLE	
What participatory planning and management tools did the projects apply during planning and decision making?	NOT APPLI-CABLE	

Safeguard	Complies	Note
In case of projects with economic purposes: were any benefits arising from the projects accessed in a fair, transparent and equitable manner by the beneficiaries, avoiding a concentration of resources?	NOT APPLI-CABLE	
To what extent have the projects provided the general public and their beneficiaries with free access and easy understanding to information related to project actions?	YES	All information was published on the project's website and was discussed at the meetings of the Municipal Council for the Environment
Were the projects able to put together a good sys-tem for monitoring results and impacts? Did the projects systematically monitor and disseminate the results achieved and their effects?	NO	A major challenge encountered is that the munici-pality does not have a monitoring system to monitor environmental issues
5. Actions consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70, Decision 1/CP 16[79] are not used for the conversion of natural forests, but rather to encourage the protection and conservation of natural forests and their ecosystem services and to enhance other social and environmental benefits		
How did the projects contribute to the expansion or consolidation of protected areas?	NOT APPLI-CABLE	The municipality has protected areas, but these areas were not the object of the project.
How did they contribute to the recovery of deforested or degraded areas?	YES	The municipality's protected areas do not have deforestation identification. However, a total of 134 hectares were recovered in the municipality.
In the case of restoration and reforestation activi-ties, did the methodologies used prioritize native species?	YES	Native species.
To what extent did the projects contribute to establishing recovery models with an emphasis on economic use?	NOT APPLI-CABLE	
6. Actions to address the risks of reversals in REDD+ results		
What factors pose risks to the permanence of REDD+ results? How did the projects approach them?	NOT APPLI-CABLE	
7. Actions to reduce the displacement of carbon emissions to other areas		
Was there a shift of emissions avoided by project actions to other areas?	NOT APPLI-CABLE	

79 Decision 1/CP 16: Reduction of emissions from deforestation; reduction of emissions from forest degradation; conservation of forest carbon stocks; sustainable forest management and increase of carbon stocks

9. TRANSVERSAL CRITERIA

Transversal Criteria	Complies	Note
Poverty Reduction		
To what extent have the projects contributed effectively to economic alternatives that value standing forest and sustainable use of natural resources?	IN PART	By raising awareness and mobilizing producers to the situation that preserved springs are essential to ensure water supply.
To what extent have the projects positively influenced poverty reduction, social inclusion and improvement in the living conditions of beneficiaries living in their area of activity?	NOT APPLI-CABLE	
The projects have been able to promote and increase the production in the value chains of both timber and non-timber forest products, sourced from sustainable management?	NOT APPLI-CABLE	
Gender equity		
The project has had some overall results and impacts on gender issues.	NOT APPLI-CABLE	
How did the project contribute to gender equity?	NOT APPLI-CABLE	
Articulation of Public Policies		
Was it possible to articulate the project with public policies of territorial and state scope ?	IN PART	Based on the project, it was possible that the municipality could be decentralized by SEMA-MT for the implementation of environmental actions and policies in the municipality. Furthermore, the municipality is now a beneficiary of the Projects: PCI Vale do Juruena and the Sustainable Calf Production Program, implemented by the Government of the State of Mato Grosso.
Food and Nutrition Security		
Did the project contribute to the nutritional food security of the beneficiaries?	NOT APPLI-CABLE	
Was the project able to include beneficiaries into food and nutrition security policies and programs?	NOT APPLI-CABLE	

APPENDIX 3
GUIDING QUESTIONS

Relevance	• Was the project designed and planned in order to respond to the needs and priorities of the City Hall for the environmental theme? • To what extent does the project design reflect the practical and strategic needs for reducing deforestation with sustainable development in the municipality? • Did the project meet the practical and strategic needs for the sustainable development of the municipality? • Did the project contribute jointly and overall to the achievement of the Amazon Fund's objectives and to the exclusion of the municipality of Arc of Deforestation?
Efficacy	• Did the project achieve its objectives in order to contribute to environmental policies in the municipality? If so, how? • Have the planned goals been achieved? • Was the design adjusted to address any concerns and maximize efficacy? • Was there monitoring of the actions implemented by the project?
Efficiency	• What are the biggest logistical challenges for project implementation? • How were they overcome? • Could the project have carried out more actions with the same or less resources?
Impact / Effectiveness	• What were the main overall effects of the project? • Were there overall impacts? Did they demonstrate scalability in the territory? • Did the project support the implementation of governance strategies, implementation of systems for monitoring environmental indicators?
Sustainability	• Are the overall effects of the project lasting? • Was sustainability achieved? • What is the status of the inputs and equipment purchased from the project from the supported project?
Transversal Elements	• At any point in the implementation of the project, was it possible to identify actions of other secretariats that were complementary or opposite to the theme of environmental conservation? • Did the project influence poverty reduction, social inclusion and improvement in the living conditions of the beneficiaries living in the municipality? • Did the project produce overall results on gender issues? What results can be observed?
Lessons Learned and Recommendations	• What are the main lessons learned from the project? • Do you have suggestions and/or recommendations for the Amazon Fund for projects focused on municipal governments?

APPENDIX 4
INTERVIEWEES

Name	Institutions
Andira Maria Pinheiro	Municipal Environment and Tourism Secretariat of Porto dos Gaúchos
André Ferro	BNDES
Celso Padovani	Mayor of Marcelândia
Elizabete	Municipal Environment and Sustainable Development Secretariat of Alta Floresta
Gabriel Fernandes	Brazilian Institute of Municipal Administration – IBAM
Gercilene Meira Leite	Municipal Environment Secretariat of Alta Floresta
Hélio Rezer	Municipal Environment and Tourism Secretariat of Porto dos Gaúchos
José Alessandro Rodrigues	Municipal Environment and Sustainable Development Secretariat of Alta Floresta
José Henrique	Municipal Environment and Agriculture Secretariat of Cotriguaçu
Leonardo Mello	Brazilian Institute of Municipal Administration – IBAM
Lincoln Alberti Nadal	Municipal Agriculture and Environment Secretariat of Marcelândia
Magnes Grael	Brazilian Institute of Municipal Administration –IBAM
Márcia Sidônio	Permanent Forum of Municipal Secretaries of the Environment of Pará – FOPESMMA
Marcus Alonso Ribeiro Neves	Brazilian Institute of Municipal Administration – IBAM
Mário Henrique Ferreira	(Former) Municipal Environment and Tourism Secretariat of Porto dos Gaúchos
Rafael	Municipal Environment and Sustainable Development Secretariat of Alta Floresta
Raquel Pereira Da Silva	Municipal Secretary of the Environment of Cotriguaçu
Suzana Barbosa	(Former) Municipal Agriculture and Environment Secretariat of Marcelândia
Tereza Cristina Baratta	Brazilian Institute of Municipal Administration –IBAM
Tito Tortori	Brazilian Institute of Municipal Administration –IBAM
Valdemar Gamba	City Hall of Alta Floresta
Valdir Rech	Apiary of the Amazon's Water Springs project – Phase II
Victor Schimitt	Municipal Environment and Tourism Secretariat of Porto dos Gaúchos

ANNEX 1

Analysis of the deforestation trends in areas of municipal support projects in the Amazon[80]

1. Introduction

The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) is coordinating the implementation of thematic evaluations in order to understand the results and impacts achieved and to identify possible ways to increase the efficacy, efficiency and sustainability of the projects included in the thematic area of support to the communities of the Brazilian Amazon. The municipalities included in this analysis are: Alta Floresta (MT), Brasil Novo (PA), Carlinda (MT), Cotriguaçu (MT), Marcelândia (MT) and Porto dos Gaúchos (MT). The municipality of Brasil Novo, located in Pará, was included in this work, aiming to contribute to the counterfactual analysis made for evaluation.

The projects to support municipalities with the Amazon Fund's resources were elaborated in the context of high deforestation rates. In common, the municipalities are located in the region known as the "Areas under intense pressure for deforestation", which comprises the region with the highest rates of deforestation in the Amazon. The municipalities supported have undergone rapid expansion in their occupation processes, basically through agriculture and livestock farming and unregulated logging. Thus, these municipalities presented problems of degradation of permanent preservation areas, fires and illegal deforestation.

In addition to an evaluation of proposed results, it is relevant to rely on analysis based on geoprocessing and remote sensing in the Brazilian Amazon to evaluate, in a complementary way, the deforestation trends in the areas of operation of the projects. The analysis considered important data for the discussion of the results, such as the agricultural production of the municipalities, the areas dedicated to agricultural activities and also the protected areas of each municipality. The data presents the size of the deposit of each municipality, indicating the intensity of the efforts necessary to improve management activities.

Thus, it is expected that this work will, in a complementary way, through its results, promote the evaluation of projects, mainly their overall impact, and generate recommendations to the actors involved in the scope of municipal environmental management, in addition to supporting individual projects. It presents, in a supporting manner, the results on deforestation trends in the areas of operation of the projects supported by the Amazon Fund.

80 Author: BUSCA TERRA. Technical team: Rafael Fonseca, Lívia Souza and Sérgio Morbiolo. contact: rafael@buscaterra.com.br. September 2022

2. Objective

The objective is to analyze the deforestation trends in projects included in the issue of supporting municipalities in the Brazilian Amazon. The projects analyzed are presented in Chart I.

CHART I: Projects analyzed

PROJECT	MUNICIPALITY	STATE	PERIOD
Amazon's Water Springs - Phase II[81]	Alta Floresta	MT	2013 to 2018
Buriti Springs[82]	Carlinda	MT	2011 to 2020
New Paths in Cotriguaçu[83]	Cotriguaçu	MT	2014 - Present
Recovering Marcelândia[84]	Marcelândia	MT	2011 to 2017
Preserving Porto dos Gaúchos[85]	Porto dos Gaúchos	MT	2011 to 2013

Source: Consultants' own elaboration

81 Project available at: http://www.fundoamazonia.gov.br/pt/projeto/Olhos-dAgua-da-Amazonia-Fase-II/

82 Project available at: http://www.fundoamazonia.gov.br/pt/projeto/Nascentes-do-Buriti/

83 Project available at: http://www.fundoamazonia.gov.br/pt/projeto/Semeando-Novos-Rumos-em-Cotriguacu/

84 Project available at: http://www.fundoamazonia.gov.br/pt/projeto/Recupera-Marcelandia/

85 Project available at: http://www.fundoamazonia.gov.br/pt/projeto/Preservar-Porto-dos-Gauchos/

3. Methodology

The methodology was applied in order to have a reading of deforestation in the periods before, during and after the projects. In this discussion, the agricultural data of each municipality and the protected areas were also considered.

The main methodological stages will be described below.

3.1. Definition of the area of operation and baseline

The areas of activity in the field were surveyed for each project.

CHART II: Areas of operation of the analyzed projects

Municipality	State	Area (km²)
Brasil Novo	PA	6.362,57
Alta Floresta	MT	8.955,41
Carlinda	MT	2.421,79
Cotriguaçu	MT	9.469,96
Marcelândia	MT	12.285,49
Porto dos Gaúchos	MT	6.846,67

Source: Consultants' own elaboration

To calculate the deforestation baseline for the region where the projects operate, deforestation was surveyed in the three-year period prior to the start of activities (2008 to 2010). As all projects started in 2011, the period from 2011 to 2020 was selected to compose the baseline. The baseline corresponds to the average deforestation in the calculated period.

3.2. Data and alerts on deforestation

To calculate the annual deforestation rate in the area of operation of the projects, data from the Project for Monitoring Deforestation in the Brazilian Amazon by Satellite (PRODES)[86] of the National Institute for Space Research (INPE) were used. PRODES data have been used as indicators for proposing public policies and for evaluating the effectiveness of their implementations. PRODES spatial data are used in: (a) certification of agribusiness production chains such as the Soy Moratorium and the Livestock Term of Conduct Change – Meat TAC; (b) intergovernmental agreements, such as the United Nations Conference on Climate Change (COP-21) and the National Inventory of Greenhouse Gas Emissions Reports; and (c) monetary donations by the Amazon Fund, which use PRODES as a reference to deforestation activity in the Brazilian Amazon.

In addition to PRODES, INPE conducts rapid surveys of alerts of changes in forest cover in the Amazon to support the inspection and control of deforestation and forest degradation carried out by the Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA) and other agencies related to this issue.

3.3. Land use

One of the main measures to contain the progress of debugging is the creation and maintenance of protected areas. In the municipalities of the projects, the protected areas that make up them were spatially identified and how they contributed to contain the advance of deforestation. The protected areas considered were: conservation units (CUs), indigenous lands (ILs) and quilombola territories.

86 86 Data available at: http://terrabrasilis.dpi.inpe.br/downloads/

Data were also collected from the Municipal Agricultural Production (MAP)[87] on planted area, area destined for harvest, harvested area, quantity produced, average income and average price paid to the producer, in the reference year, for 64 agricultural outputs (31 from temporary crops and 33 from permanent crops). Temporary crops are those of short or medium duration, since their reproductive cycle is less than one year, and once harvested, they need to be replanted. Permanent crops, on the other hand, are long-cycle crops, whose harvests can be made for several years without the need for new planting.

To understand the dynamics of the territory, the number and area of Rural Environmental Registrations (CAR) of each municipality was also surveyed.[88]

87 https://www.ibge.gov.br/estatisticas/economicas/agricultura-e-pecuaria/9117-producao-agricola-municipal-culturas-temporarias-e-Permanents.html?=&t=o-que-e

88 The CAR is a national electronic public registry, mandatory for all rural properties, with the purpose of integrating the environmental information of rural properties and possessions, composing a database for control, monitoring, environmental and economic planning and combating deforestation.

4. Results

Deforestation in the Amazon has a known pattern and follows some well-defined stages. The first stage of deforestation is the illegal extraction of timber, with the opening of clearings and logging for the removal of high-grade timber of commercial interest. After the removal of the high-grade wood, the burning of the shrubs and smaller trees is carried out, to clean the land and facilitate access. And, after the burning, the land is converted into pasture. According to the Food and Agriculture Organization of the United Nations (FAO), more than 80% of deforestation in Brazil is related to the conversion of forest into irregular pasture.[89] Another vector of deforestation not related to the cycle of conversion of forest into productive land is mining. The opening of mines for economically advantageous stones and metals has been a cause of deforestation of areas since the period of colonization of our territory. Currently, illegal mining exerts pressure on preserved forest areas in the Amazon.

It is understood that productive activities are essential for the economic development of a country, but they must be guided by environmental legislation.

The agricultural production data of the municipalities are in Table I. They present a large difference between the importance of temporary farming in the municipalities, as well as the annual production value. Still, in the temporary crop, there is a predominance of corn and soybean crops, while in the permanent crop, coffee is the most planted crop. The municipality of Porto dos Gaúchos stands out from the others, both in planted area and production value. Complete data on deforestation in protected areas are presented in Annex IV of this report.

89 The State of the World's Forests 2016: https://www.fao.org/publications/card/en/c/C0176PT/

CHART II: Areas of operation of the analyzed projects

Municipality	Temporary crop		Permanent crop	
	Planted area (km²)	Production value (thousand Reais)	Planted area ((km²)	Production value (thousand Reais)
Alta Floresta	432,38	R$ 182.659,00	4,08	R$ 3.338,00
Brasil Novo	5,29	R$ 3.642,00	82,12	R$ 111.106,00
Carlinda	202,40	R$ 80.561,00	1,49	R$ 1.467,00
Cotriguaçu	26,48	R$ 15.125,00	13,45	R$ 7.097,00
Marcelândia	1.026,72	R$ 420.102,00	0,59	R$ 693,00
Porto dos Gaúchos	3.211,93	R$ 1.579.346,00	18,00	R$ 3.564,00
TOTALS	**4.905,20**	**R$ 2.281.435,00**	**119,73**	**R$ 127.265,00**

Source: Municipal Agricultural Production – MAP[90]

4.1. Deforestation

For the five projects developed by the municipalities that received support from the Amazon Fund and are analyzed in this report, the deforestation trends in the last 14 years (2008 to 2022) was calculated with data from PRODES. To facilitate understanding, the data were aggregated in three periods: before the project (baseline), during the execution of the projects and post-project. Deforestation data for each project are presented in Table II.

Table II: Deforestation data (in km2) for the municipalities analyzed

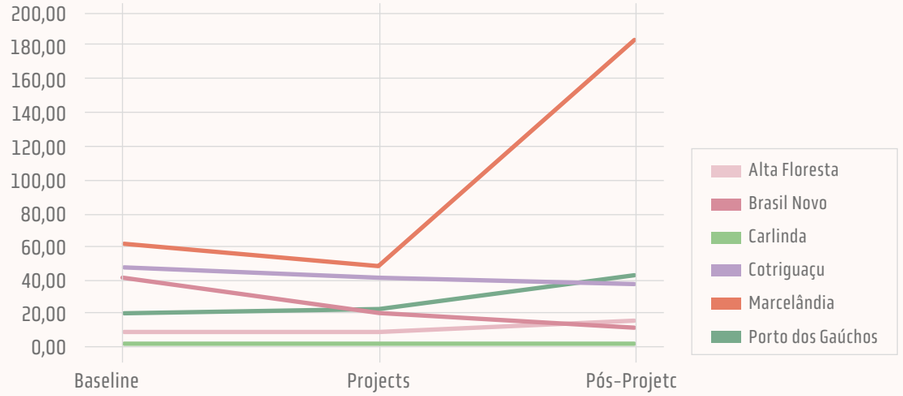
Municipality	Area (km²)	Baseline (2008 - 2010)	During the projects (2011 - 2020)	Post-Project (2021 - 2022)	Total
Alta Floresta	8.955,42	8,36	9,43	15,58	10,75
Brasil Novo	63.62,57	41,39	20,62	11,45	25,23
Carlinda	2.421,79	1,48	2,28	1,25	2,13
Cotriguaçu	9.470,01	47,34	40,95	36,63	44,63
Marcelândia	12.285,49	62,01	48,31	181,83	73,77
Porto dos Gaúchos	6.846,67	20,05	22,14	43,17	26,28
TOTAL	**41.987,70**	**144,65**	**125,55**	**279,22**	**182,79**

Source: Prepared by the consultants (2022)

90 https://www.ibge.gov.br/estatisticas/economicas/agricultura-e-pecuaria/9117-producao-agricola-municipal-culturas-temporarias-e-Permanents.html?=&t=destaques

In comparative terms, the municipality of Marcelândia was the one that had the most increase in deforestation in the post-project (Figure 1).

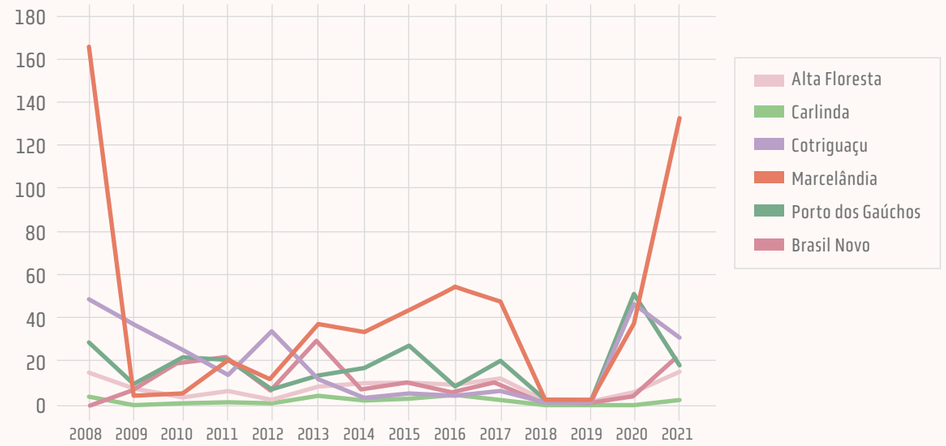
Figure 1: Comparison between the three periods analyzed: baseline, project execution period and post-project



Source: Consultants' own elaboration

Over time, we noticed that there was a strong increase in Marcelândia from 2018. There were also other municipalities with high levels, such as Alta Floresta and Porto dos Gaúchos (Figure II). The complete deforestation data are presented in Annex II of this report.

Figure II: Annual deforestation data by municipality

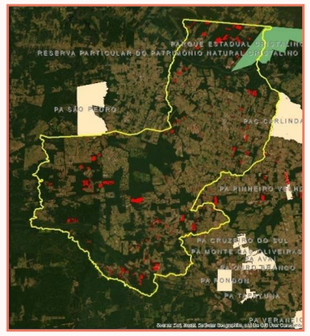


Source: Consultants' own elaboration

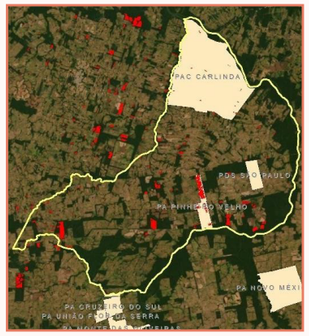
Figure III shows the summarized maps of each municipality. It is possible to check the accumulated deforestation (in red) in each area, as well as the protected areas, indigenous lands and agricultural settlements. In some municipalities, such as Cotriguaçu, it is possible to identify that the settlements had an important contribution to deforestation in the municipality. The maps of all munitions are presented in Annex I of this report.

Figure III: Maps of the municipalities of:

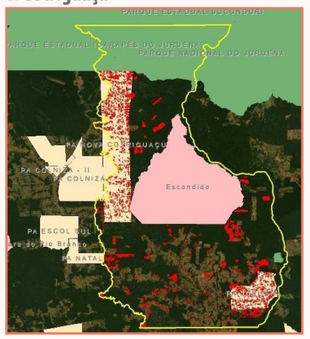
A. Alta Floresta



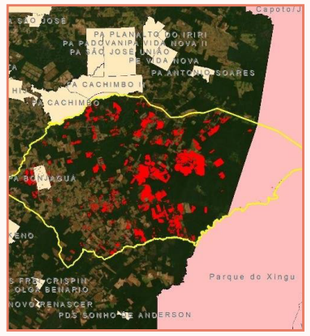
B. Carlinda



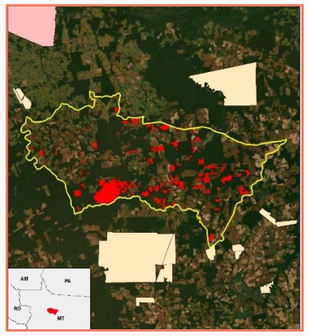
C. Cotriguaçu



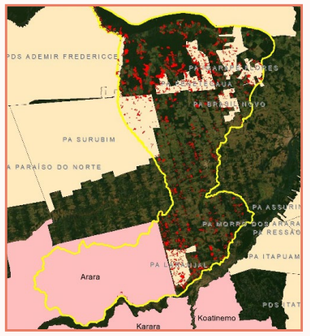
D. Marcelândia



E. Porto dos Gaúchos



F. Brasil Novo



In red the deforestation area, in green conservation units, in yellow agricultural settlements and pink indigenous lands.

Source: Consultants' own elaboration

The municipality of Carlinda in Mato Grosso was the one that presented the least deforestation in recent years. Carlinda has no protected areas, its productive area is approximately 8% of the territory and the CAR area is very similar to the total area of the municipality. This data is interesting, as it shows that there

is control of deforestation activity even if there are no public protected areas.

The municipality that had the most deforested area was Marcelândia in Mato Grosso. Despite having a proportionally planted area similar to that of Carlinda, accumulated deforestation was very large, reaching more than 180 km² in 2021 and 2022.

Porto dos Gaúchos is the municipality with the highest agricultural production. More than half of the area is cropland, predominantly soybeans. Deforestation increased after the completion of the project, almost doubling the value of the deforested area.

4.2. Protected areas

The protected areas of each municipality are shown in Table III. The municipality of Cotriguaçu in Mato Grosso was the one that presented the most protected territory proportionally to the area. The complete deforestation data in protected areas are presented in Annex III of this report.

Table III: Protected area data in each municipality analyzed

Municipality	Municipalities		Settlements		Indigenous Lands		Conservation Units	
	Total Area (km²)	Deforestation (km²)	Total Area (km²)	Deforestation (km²)	Total Area (km²)	Deforestation (km²)	Total Area (km²)	Deforestation (km²)
Alta Floresta	8.955,41	150,53	0,12	0,12	0,00	0,00	130,14	20,08
Brasil Novo	6.362,58	353,26	979,79	636,46	1.557,00	7,88	0,53	0,00
Carlinda	2.421,79	29,77	398,17	360,23	0,00	0,00	0,00	0,00
Cotriguaçu	9.469,96	624,83	1.146,28	914,05	1.681,44	3,81	2.541,35	20,00
Marcelândia	12.285,49	1.032,80	121,49	115,77	1.435,01	10,77	0,14	0,14
Porto dos Gaúchos	6.846,67	367,92	1,94	1,81	0,00	0,00	0,00	0,00
Grand Total	**46.341,88**	**2.559,10**	**2.647,78**	**2.028,43**	**4.673,44**	**22,46**	**2.672,16**	**40,22**

Source: Consultants' own elaboration

The CAR data are presented in Table IV. All CARs made available on SICAR's public base were considered, and most have not yet been evaluated by government institutions. The last column of the chart shows the difference between the total area of the municipality and the sum of the areas of all CARs in the municipality.

Table IV: Rural Environmental Registry Figures for each Municipality

State	Municipality	Area (km²)	CARs Number	Total Area with CAR (km²)	Deforestation in CAR area (total by 2021 in km²)	Difference in Areas (km²)
MT	Alta Floresta	8.955	3.347	8.346,61	119,60	608,82
MT	Carlinda	2.422	2.038	2.143,43	31,18	278,36
MT	Cotriguaçu	9.470	1.491	5.927,56	617,04	3.542,45
MT	Marcelândia	12.285	1.752	9.401,86	1.071,39	2.883,63
MT	Porto dos Gaúchos	6.847	1.135	6.584,10	266,61	262,56
PA	Brasil Novo	6.362	2.989	5.073,95	366,23	1.288,05

Source: Consultants' own elaboration

5. Final considerations

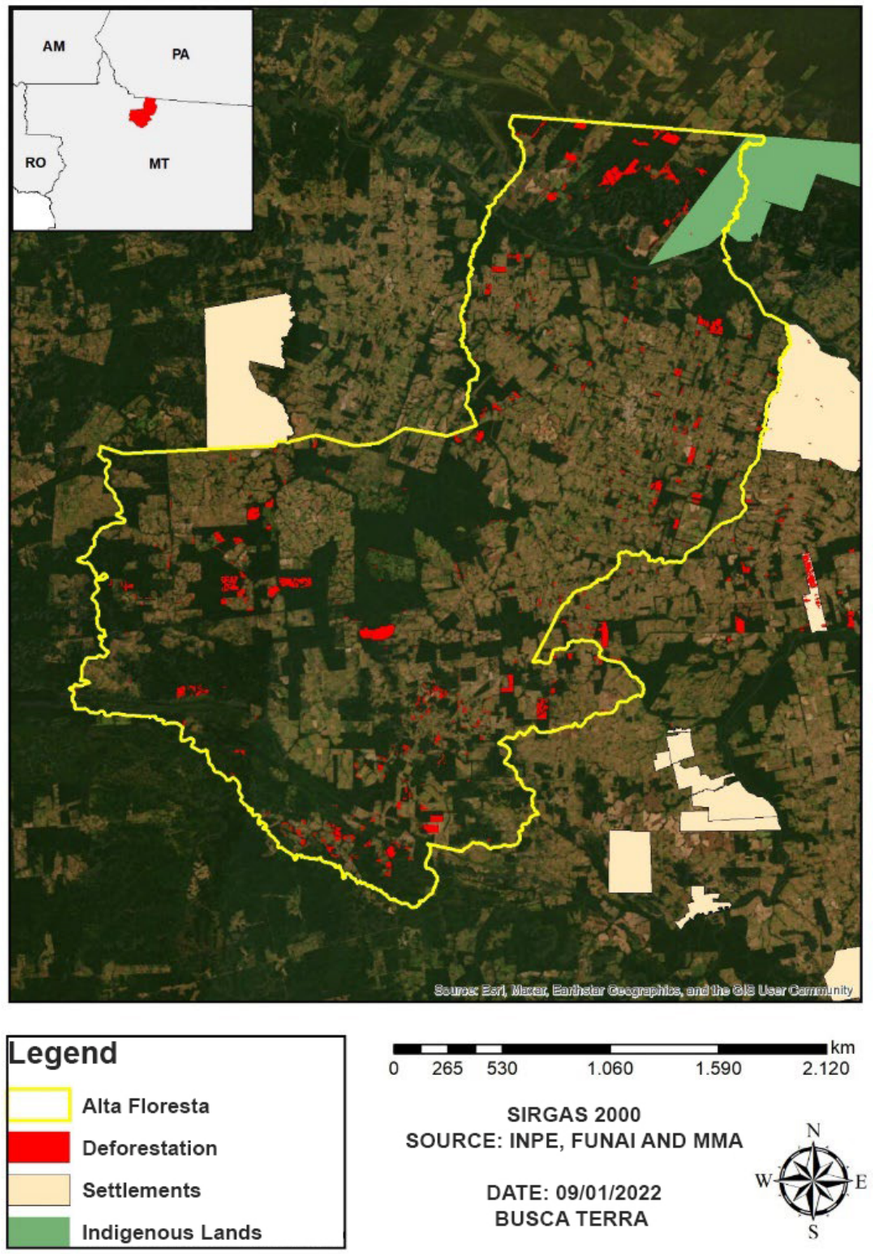
This study aimed to present the deforestation trends in municipalities that were evaluated by their projects with the Amazon Fund. Data from PRODES and the Real-Time Deforestation Detection System (DETER) were used to complement the post-project years. A survey of agricultural data was also conducted to empirically relate them to the deforestation situation of each municipality.

Although the five municipalities are located in the "Areas under intense pressure for deforestation", agricultural production is modest, with the exception of Porto dos Gaúchos. Despite the low agricultural production, the municipalities have more than 12,700 properties registered in the CAR, occupying an area of 37,478 km2 (more than 80% of the areas occupied by the municipalities).

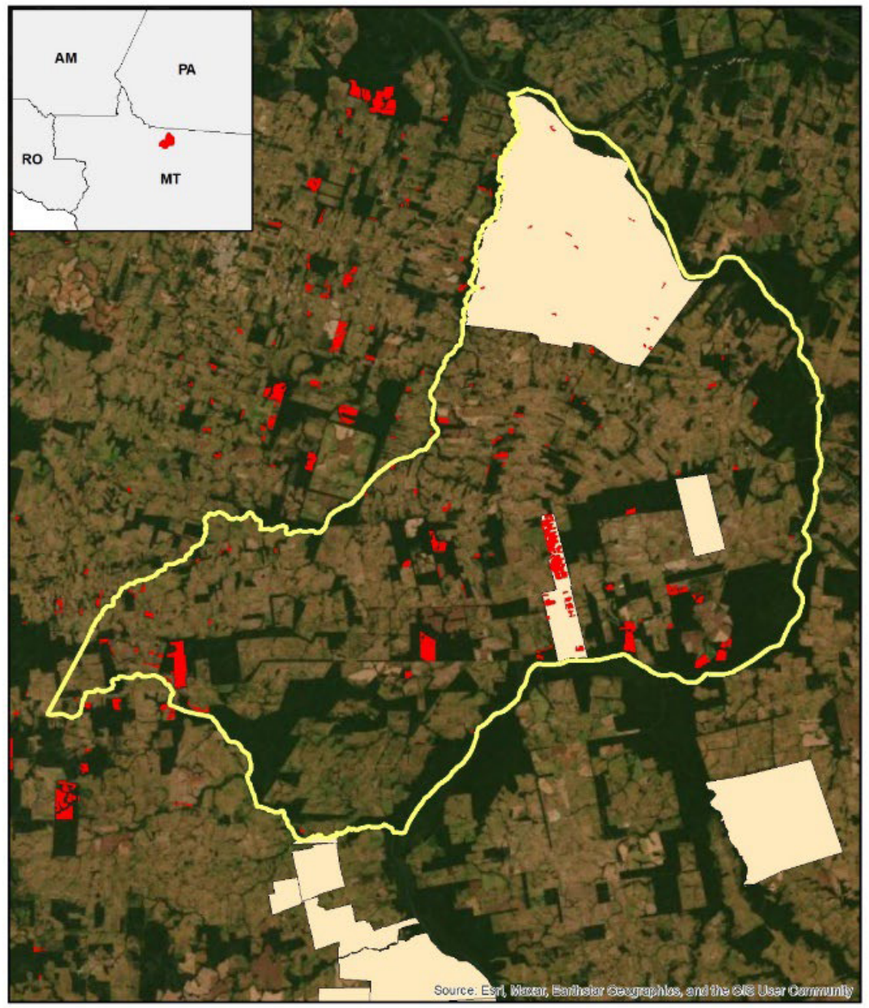
Although the CAR numbers are very expressive, the vast majority have not yet been analyzed by government institutions and may contain errors of different origins (missing information, overlapping, duplication, etc.). In our analysis, more than 95% of the deforestation that has occurred in recent years in the six five communities covered in this report has taken place in areas with a CAR. As analysis by government institutions and validation of CARs progresses, it is expected that it will be possible to identify the causes of deforestation and those who may be responsible.

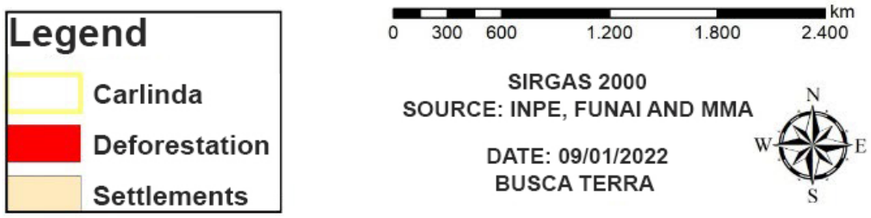
ANEXO I: Maps of the municipalities

A – Alta Floresta

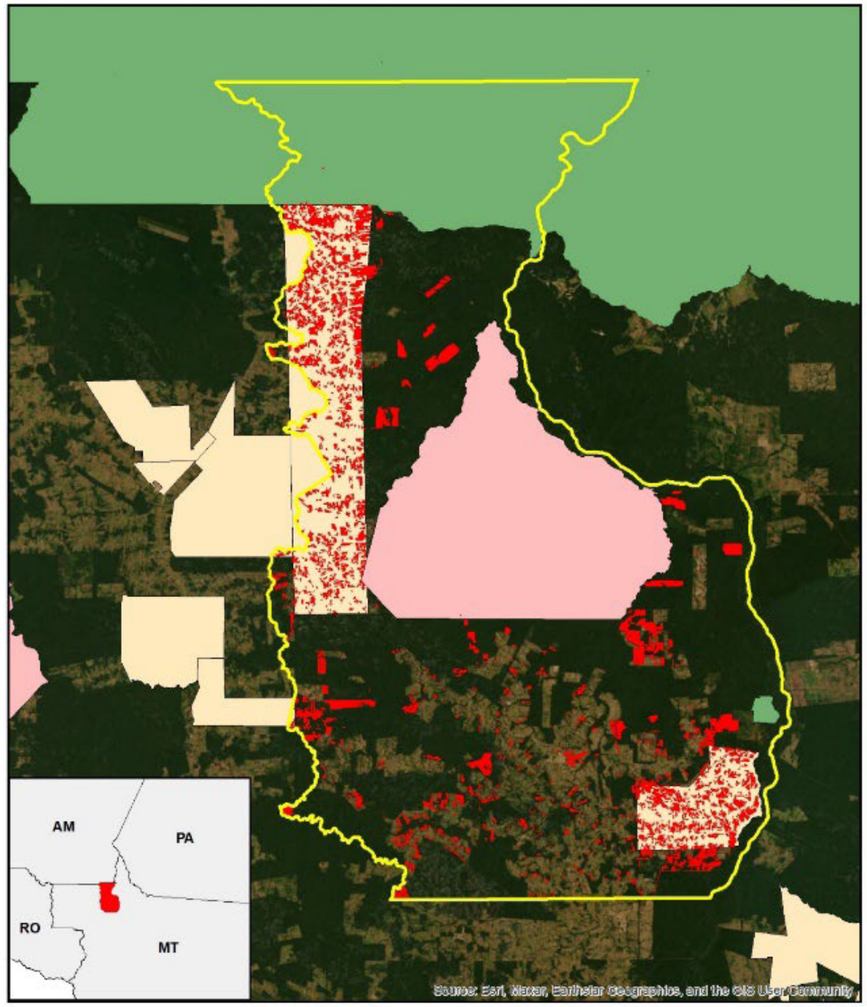


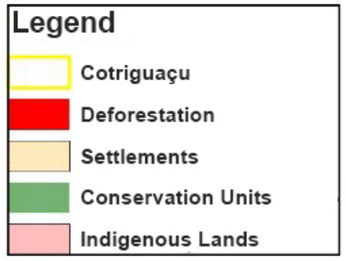
B – Carlinda

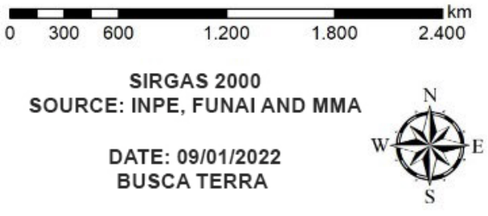




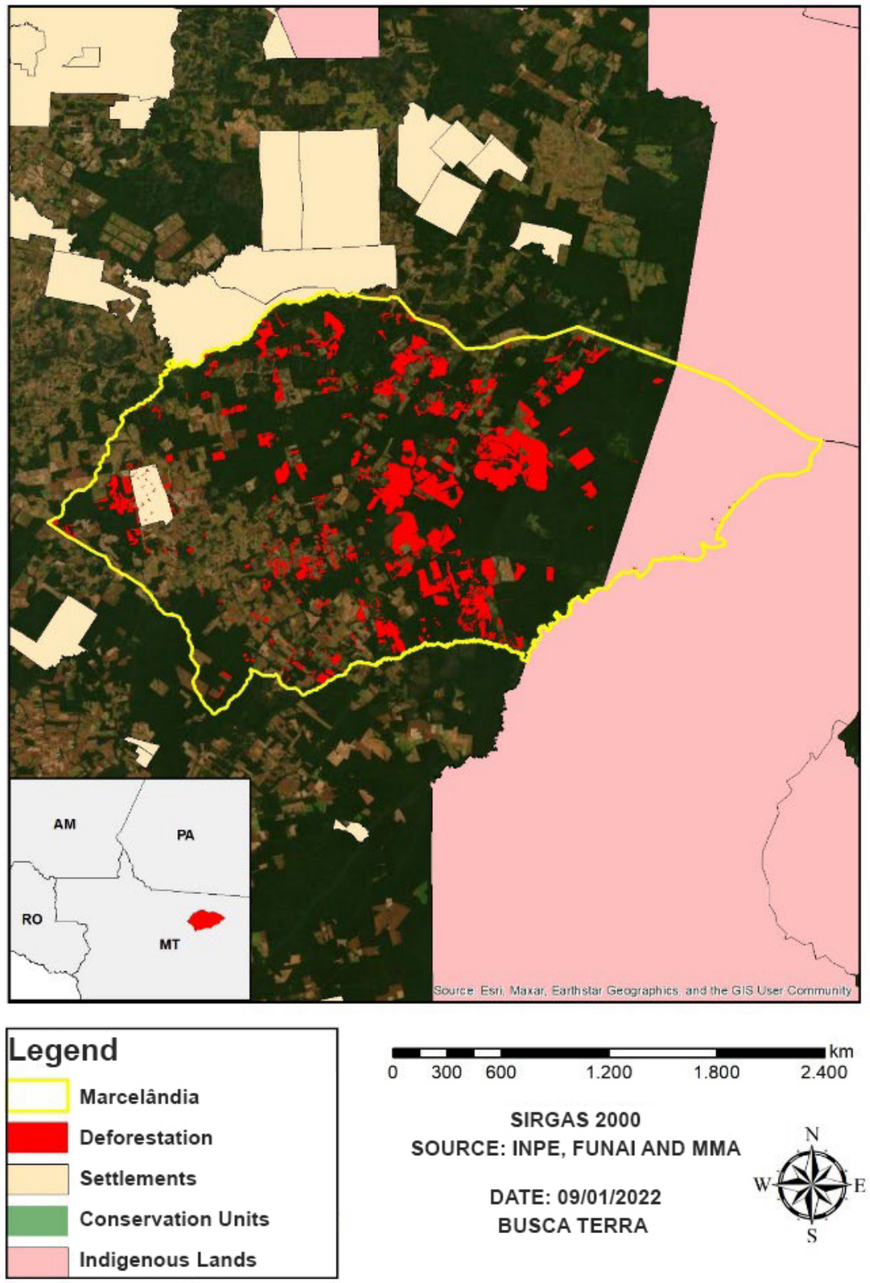
C – Cotriguaçu



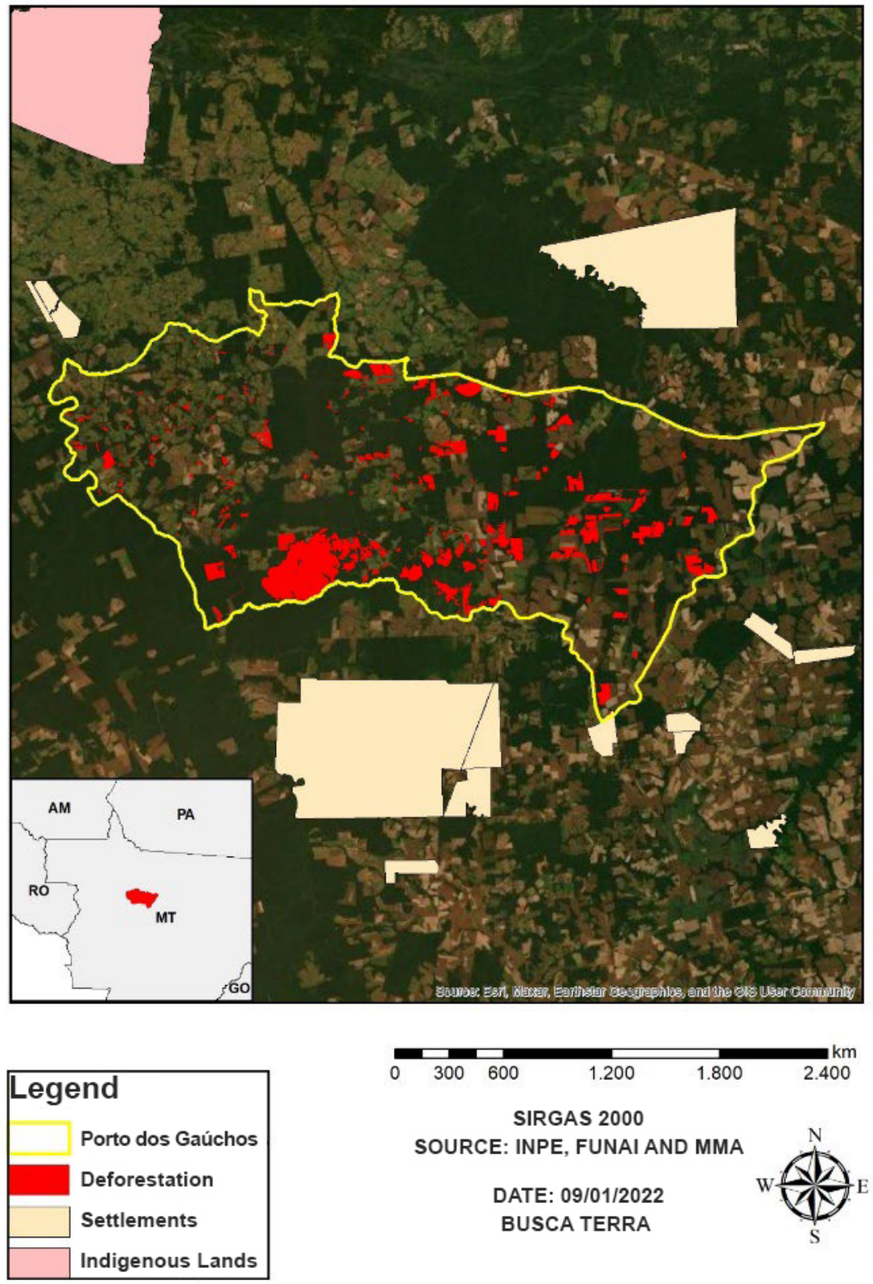




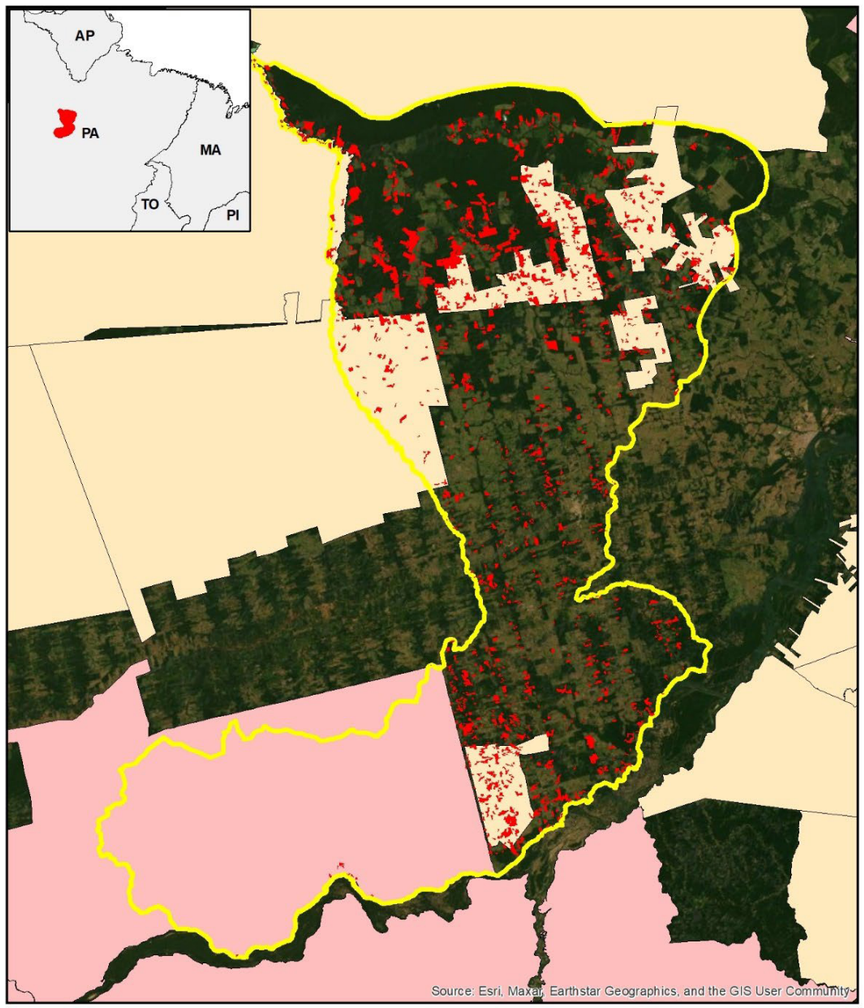
D – Marcelândia

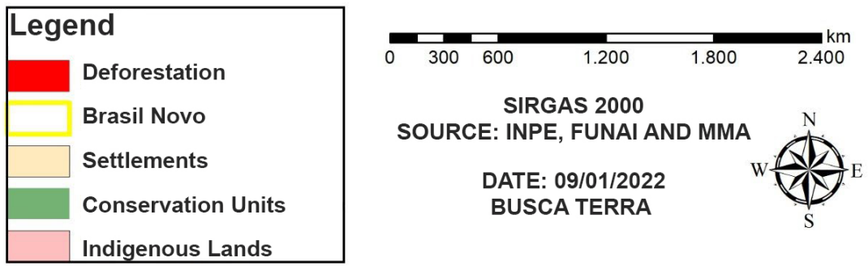


E – Porto dos Gaúchos



F – Brasil Novo





ANEXO II: Complete deforestation survey data – hectares per year

Yes	Alta Floresta	Brasil Novo	Carlinda	Cotriguaçu	Marcelândia	Porto dos Gaúchos	Grand Total
2000 a 2007	4.756,53	2.495,57	1.717,36	1.870,14	3.230,07	2.863,89	16.933,59
2008	15,15	17,21	3,95	77,03	176,93	29,39	308,33
2009	7,13	57,14	0,21	37,32	3,34	8,98	60,59
2010	2,80	49,81	0,30	27,68	5,76	21,77	65,03
2011	5,66	38,65	0,82	21,24	20,65	20,47	71,14
2012	1,55	8,86	0,14	43,43	12,40	7,21	65,63
2013	7,00	32,06	4,38	41,43	36,61	13,01	104,27
2014	9,67	8,91	1,56	46,25	35,10	16,61	111,09
2015	9,21	10,88	2,43	57,82	44,75	27,98	145,47
2016	8,75	6,56	5,06	50,87	55,23	8,63	130,65
2017	11,93	28,18	2,31	45,22	48,00	18,99	128,42
2018	8,53	19,08	2,42	22,06	22,11	31,98	89,77
2019	14,95	26,08	2,10	32,24	96,08	24,96	174,00
2020	17,05	26,87	1,60	48,98	112,18	51,60	235,09
2021	14,51	20,40	1,95	30,00	133,20	17,11	198,28
2022	16,65	2,49	0,55	43,26	230,47	69,23	360,16
Grand Total	**4.907,06**	**2.848,83**	**1.747,14**	**2.494,97**	**4.262,87**	**3.231,81**	**19.492,69**

ANEXO III: Data on protected areas by municipality

Municipality	Acronym	Total Area (km²)	Area (km²)	Type	Category
Alta Floresta	MT	8955,41	130,0785	Conservation Unit	Park
Carlinda	MT	2421,788	23,9772	Settlement	
Carlinda	MT	2421,788	30,1276	Settlement	
Carlinda	MT	2421,788	343,8792	Settlement	
Cotriguaçu	MT	9469,957	4,4659	Settlement	
Cotriguaçu	MT	9469,957	293,5775	Settlement	
Cotriguaçu	MT	9469,957	844,9919	Settlement	
Cotriguaçu	MT	9469,957	3,241	Settlement	
Cotriguaçu	MT	9469,957	1681,4174	Indigenous Lands	
Cotriguaçu	MT	9469,957	17,6025	Conservation Unit	Heritage Reserve
Cotriguaçu	MT	9469,957	1144,92	Conservation Unit	Overlapping
Cotriguaçu	MT	9469,957	98,9746	Conservation Unit	State Park
Cotriguaçu	MT	9469,957	126,8157	Conservation Unit	Federal Park
Marcelândia	MT	12285,486	117,7728	Settlement	
Marcelândia	MT	12285,486	1435,0073	Indigenous Lands	
Marcelândia	MT	12285,486	0,1412	Conservation Unit	Park
Porto dos Gaúchos	MT	6846,668	1,9381	Settlement	
Brasil Novo	PA	6.362,58	44,80	Settlement	
Brasil Novo	PA	6.362,58	296,39	Settlement	
Brasil Novo	PA	6.362,58	71,17	Settlement	
Brasil Novo	PA	6.362,58	209,06	Settlement	
Brasil Novo	PA	6.362,58	127,25	Settlement	
Brasil Novo	PA	6.362,58	3,66	Settlement	
Brasil Novo	PA	6.362,58	227,45	Settlement	
Brasil Novo	PA	6.362,58	1.557,00	Indigenous Lands	
Brasil Novo	PA	6.362,58	0,53	Conservation Unit	Verde para Sempre Extractivist Reserve

ANEXO IV: Agricultural production by municipality

Municipality	State	Kind	Culture	Area intended for harvest (hectares)	Quantity produce (tons)	Average yield of production (Kilograms by Hectare)	Value of production (Thousand reais)
Alta Floresta	MT	Permanent	Banana (bunch)	34	740	21.765	R$ 1.295,00
Alta Floresta	MT	Permanent	Coffee	200	120	600	R$ 497,00
Alta Floresta	MT	Permanent	Guaraná (seed)	139	69	496	R$ 828,00
Alta Floresta	MT	Permanent	Orange	10	80	8.000	R$ 168,00
Alta Floresta	MT	Permanent	Lemon	5	50	10.000	R$ 70,00
Alta Floresta	MT	Permanent	Papaya	10	80	8.000	R$ 80,00
Alta Floresta	MT	Permanent	Passion Fruit	10	100	10.000	R$ 400,00
Alta Floresta	MT	Temporary	Pineapple	8	120	15.000	R$ 109,00
Alta Floresta	MT	Temporary	Rice in the hull	1.500	5.400	3.600	R$ 5.400,00
Alta Floresta	MT	Temporary	Cassava	50	750	15.000	R$ 495,00
Alta Floresta	MT	Temporary	Watermelon	30	600	20.000	R$ 600,00
Alta Floresta	MT	Temporary	Corn	15.000	85.500	5.700	R$ 64.125,00
Alta Floresta	MT	Temporary	Soybean	26.650	95.940	3.600	R$ 111.930,00
Carlinda	MT	Permanent	Banana (bunch)	30	360	12.000	R$ 630,00
Carlinda	MT	Permanent	Cocoa (almonds)	9	4	444	R$ 20,00
Carlinda	MT	Permanent	Coffee	80	48	600	R$ 209,00
Carlinda	MT	Permanent	Lemon	10	80	8.000	R$ 112,00
Carlinda	MT	Permanent	Passion Fruit	10	95	9.500	R$ 380,00
Carlinda	MT	Permanent	Mandarin	10	95	9.500	R$ 116,00
Carlinda	MT	Temporary	Pineapple	10	167	16.700	R$ 152,00
Carlinda	MT	Temporary	Rice in the hull	650	1.950	3.000	R$ 1.950,00
Carlinda	MT	Temporary	Cassava	60	767	12.783	R$ 506,00
Carlinda	MT	Temporary	Watermelon	20	328	16.400	R$ 328,00
Carlinda	MT	Temporary	Corn	6.000	34.200	5.700	R$ 25.650,00
Carlinda	MT	Temporary	Soybean	13.500	44.550	3.300	R$ 51.975,00
Cotriguaçu	MT	Permanent	Banana (bunch)	100	800	8.000	R$ 1.960,00
Cotriguaçu	MT	Permanent	Cocoa (almonds)	220	121	550	R$ 968,00
Cotriguaçu	MT	Permanent	Coffee	620	420	677	R$ 1.890,00
Cotriguaçu	MT	Permanent	Coconut	10	60	6.000	R$ 96,00
Cotriguaçu	MT	Permanent	Orange	20	160	8.000	R$ 360,00
Cotriguaçu	MT	Permanent	Passion Fruit	5	25	5.000	R$ 100,00
Cotriguaçu	MT	Permanent	Palm Heart	150	270	1.800	R$ 709,00
Cotriguaçu	MT	Permanent	Achiote	220	396	1.800	R$ 1.014,00
Cotriguaçu	MT	Temporary	Pineapple	20	400	20.000	R$ 1.080,00
Cotriguaçu	MT	Temporary	Peanut	5	9	1.800	R$ 43,00
Cotriguaçu	MT	Temporary	Rice in the hull	200	600	3.000	R$ 555,00
Cotriguaçu	MT	Temporary	Sweet Potato	4	48	12.000	R$ 70,00
Cotriguaçu	MT	Temporary	Sugarcane	100	4.000	40.000	R$ 288,00
Cotriguaçu	MT	Temporary	Beans	35	21	600	R$ 49,00
Cotriguaçu	MT	Temporary	Cassava	370	5.180	14.000	R$ 6.216,00
Cotriguaçu	MT	Temporary	Watermelon	40	900	22.500	R$ 1.116,00
Cotriguaçu	MT	Temporary	Corn	1.000	3.330	3.330	R$ 1.985,00

Municipality	State	Kind	Culture	Area intended for harvest (hectares)	Quantity produce (tons)	Average yield of production (Kilograms by Hectare)	Value of production (Thousand reais)
Cotriguaçu	MT	Temporary	Soybean	872	2.878	3.300	R$ 3.646,00
Cotriguaçu	MT	Temporary	Tomato	2	32	16.000	R$ 77,00
Marcelândia	MT	Permanent	Banana (bunch)	12	78	6.500	R$ 164,00
Marcelândia	MT	Permanent	Coffee	21	13	619	R$ 59,00
Marcelândia	MT	Permanent	Coco-da-baía	10	50	5.000	R$ 40,00
Marcelândia	MT	Permanent	Guarana (seed)	10	6	600	R$ 72,00
Marcelândia	MT	Permanent	Passion Fruit	5	90	18.000	R$ 349,00
Marcelândia	MT	Permanent	Black pepper	1	1	1.000	R$ 9,00
Marcelândia	MT	Temporary	Rice in the hull	3.000	9.600	3.200	R$ 9.408,00
Marcelândia	MT	Temporary	Beans	500	450	900	R$ 1.440,00
Marcelândia	MT	Temporary	Cassava	150	2.250	15.000	R$ 1.485,00
Marcelândia	MT	Temporary	Watermelon	20	280	14.000	R$ 216,00
Marcelândia	MT	Temporary	Melon	2	28	14.000	R$ 69,00
Marcelândia	MT	Temporary	Corn	33.000	217.800	6.600	R$ 169.884,00
Marcelândia	MT	Temporary	Soybean	66.000	237.600	3.600	R$ 237.600,00
Porto dos Gaúchos	MT	Permanent	Rubber (coagulated latex)	1.800	1.620	900	R$ 3.564,00
Porto dos Gaúchos	MT	Temporary	Pineapple	30	600	20.000	R$ 546,00
Porto dos Gaúchos	MT	Temporary	Cotton	14.998	59.992	4.000	R$ 155.979,00
Porto dos Gaúchos	MT	Temporary	Rice in the hull	3.600	11.028	3.063	R$ 11.028,00
Porto dos Gaúchos	MT	Temporary	Sugarcane	10	250	25.000	R$ 21,00
Porto dos Gaúchos	MT	Temporary	Beans	500	1.200	2.400	R$ 3.840,00

Municipality	State	Kind	Culture	Area intended for harvest (hectares)	Quantity produce (tons)	Average yield of production (Kilograms by Hectare)	Value of production (Thousand reais)
Porto dos Gaúchos	MT	Temporary	Cassava	55	1.375	25.000	R$ 908,00
Porto dos Gaúchos	MT	Temporary	Corn	120.000	792.000	6.600	R$ 673.200,00
Porto dos Gaúchos	MT	Temporary	Soybean	182.000	611.520	3.360	R$ 733.824,00
Brasil Novo	PA	Temporary	Pineapple	1	25	25000	R$ 38,00
Brasil Novo	PA	Temporary	Rice in the hull	10	20	2000	R$ 19,00
Brasil Novo	PA	Temporary	Sugarcane	2	100	50000	R$ 45,00
Brasil Novo	PA	Temporary	Beans	18	12	667	R$ 47,00
Brasil Novo	PA	Temporary	Cassava	190	3800	20000	R$ 2.407,00
Brasil Novo	PA	Temporary	Watermelon	8	120	15000	R$ 96,00
Brasil Novo	PA	Temporary	Corn	300	900	3000	R$ 990,00
Brasil Novo	PA	Permanent	Açaí	120	720	6000	R$ 1.800,00
Brasil Novo	PA	Permanent	Banana (bunch)	400	5600	14000	R$ 7.280,00
Brasil Novo	PA	Permanent	Cacau (amêndoas)	7653	7230	945	R$ 101.220,00
Brasil Novo	PA	Permanent	Coffee	10	9	900	R$ 16,00
Brasil Novo	PA	Permanent	Coco-da-baía	5	38	7600	R$ 57,00
Brasil Novo	PA	Permanent	Guarana (seed)	2	1	500	R$ 14,00
Brasil Novo	PA	Permanent	Orange	10	150	15000	R$ 120,00
Brasil Novo	PA	Permanent	Papaya	15	225	15000	R$ 518,00
Brasil Novo	PA	Permanent	Black pepper	3	6	2000	R$ 81,00

ANNEX 2

Case Study for Effectiveness Evaluation
of the Municipal Projects of the Amazon Fund/BNDES

Environmental Policies of the Municipality of Brasil Novo – Pará[91]

1. Object description

The Case Study for the Effectiveness Evaluation of Public Projects under the Amazon Fund/BNDES is based on the Terms of Reference of the Cooperation project with the Amazon Fund/BNDES, referring to this contract.

The objective of this consultancy was to report and analyze the thematic initiatives similar to the municipal projects submitted to the Effectiveness Evaluation under the Amazon Fund/BNDES, in the context of environmental policy and governance in the municipality of Brasil Novo.

2. General characterization of the municipality

The municipality of Brasil Novo, located in the State of Pará, belongs to the Southeast Paraná mesoregion, in the microregion of Altamira, in northern Brazil. It is bordered to the north by the municipality of Porto de Moz, to the south and east by the municipality of Altamira and to the west by the municipality of Medicilândia. It is 857.6 km from Belém, the state capital. As for land access to the municipality, the Trans-Amazonian Highway – BR-230 – is used from Altamira and the BR-316 from Santarém. It also has around 2,500 km of side roads or crossings. (Figure I)

91 Prepared in November 2022, by BL Consultoria & Serviços CNPJ 18.301.585/0001-45 brunalimacta@gmail.com

Figure I: Location of Brasil Novo, Southwest Pará mesoregion

Source: City Hall of Brasil Novo, 2020

To better understand the formation of the municipality, it is necessary to go back to the 1970s, with the program instituted by the federal government and implemented from 1971, the National Integration Program – pin, which aimed to develop a large program of colonization and agrarian reform directed at Amazonia, bringing landless workers from different parts of Brazil, especially the Northeast, to populate the region.

The project for the colonization of the Amazon basin, developed by the National Institute of Colonization and Agrarian Reform (INCRA) in the early 1970s, proposed to create urban nuclei integrated into the rural area in a 10 km wide strip on each side of the Trans-Amazonian Highway, in order to favor agricultural activity and fix man in the countryside. It is said that the occupation of the area was necessary to support agriculture. The highway attracted 2 million men and women, causing cities along its route, such as Altamira or Itaituba, to grow by 1,000% or more in three decades (FONSECA; BRA-GA, 2010). Thus, the plan for the construction of *agrovillages*, *agropolis* and *ruropolis* emerged.

With the end of the Military Dictatorship and the return of democracy, Pará created new municipalities in the early 1990s. Thus, initially known as the agrovillage INCRA (administrative headquarters and support for colonization), Brasil Novo was transformed into a municipality.

The municipality is included in the Ecological-Economic Zoning (ZEE) of the Area of Influence of Highways BR-163 (Cuiabá Santarém) and BR-230 (Trans-Amazonian Highway) in the State of Pará

- West Zone, according to Law no. 7.243 of January 9, 2009, which provides for Economic and Ecological Zoning. The West Zone ZEE seeks to guide the planning, management and land-use planning for sustainable development, the improvement of the socioeconomic conditions of the local populations and the maintenance and recovery of the environmental services of the natural ecosystems of the region.

According to IBGE data, Brasil Novo has an area of 6,362.60 km2 (2021) with a population of 15,690 inhabitants (2010), of which 6,899 (43.97%) live in urban areas and the other 8,791 (56.03%) in rural areas. The population estimate for 2021, according to IBGE, is 14,883 inhabitants. Administratively, the municipality has only the administrative district. In addition to this center, the municipality has ten agrovillages and six rural communities.

2.1. Protected Areas in Brasil Novo (PA)

The Arara Indigenous Land (IL), located in the state of Pará, is regularized and traditionally occupied, with an area of 274,010 hectares and a population of 256 people, according to 2010 data from FUNAI-Altamira, comprising the municipalities of Altamira, Brasil Novo, Medicilândia and Uruará. Within the area of the municipality, the Arara IL has 1,550 km2 and is protected by federal law, thus it must be fully preserved.

Regarding Conservation Units (CUs), Brasil Novo does not have any included in its territory, even with Municipal Law No. 023/2002, which promotes the creation of CUs and protected areas.

2.2. Economic Activities

According to IBGE and data collected on the website of the Municipality of Brasil Novo, the Brazilian economy is structured in extensive beef cattle raising, extraction of hardwood, trade and provision of basic services, perennial agriculture (cocoa, coffee, black pepper and fruits) and agricultural crops (beans, rice, corn, cassava, etc.) and some artisanal industries and medium-sized sawmills.

After the creation of the municipality in 1991, livestock farming began to gain strength. Immigrants from other locations, when buying their land, vast and with pasture, begin to establish their productive structures. From then on, the trend was the increase and specialization of this activity in the region, as already mentioned, through incentives, geographical conditions, among others. Livestock is an activity considered to be expanding in the municipality.

According to IBGE data, in 2013, Brasil Novo presented a gross domestic product – GDP of R$103,647,000 (added value), which represents, at current prices of that year, a GDP per capita of R$10,196.92. In Brasil Novo, the agribusiness sector holds the largest share of municipal GDP, corresponding to 40.33%, followed by the administration and public services sector, with 28.72%, services, with 22.66%, taxes, with 4.85%, and industry, with 3.44%.

3. Results and discussion

The Municipal Executive Branch of Brasil Novo has the following organizational structure

1. Mayor's Office
2. Municipal Agriculture and Mining Secretariat – SEMAM
3. Municipal Education Secretariat – SEMED
4. Municipal Finance and Administration Secretariat
5. Municipal Transport and Maintenance Secretariat – SETRAM
6. Municipal Planning, Budget and Management Secretariat – SEPLAN
7. Municipal Health Secretariat – SMS
8. Municipal Labor Secretariat and Social Promotion – SEMUTS
9. Municipal Environment Secretariat – SEMMA

In the last ten years, the Municipal Legislature of Brazil Novo has proposed environmental legislation to strengthen governance and guide the municipality towards a balance between rational land use, economic development and environmental adaptation. [Chart I]

CHART I: Environmental Legislation of Brasil Novo

Municipal Environmental Legislation	Law Number/Year
Law for the creation of the Municipal Environmental System	Municipal Law No. 164/2013
Law on the creation of the Municipal Environment Agency	Municipal Law No. 155/2013
Law of Creation of the Municipal Council of the Environment	Municipal Law No. 148/2012
Law of Creation of the Municipal Environment Fund	Municipal Law No. 161 of 2013
Municipal Environmental Policy	Municipal Law No. 164/2013
Urban Guidelines Law	None
Law establishing the Urban Development Master Plan	Municipal Law No. 180 of
Environmental Preservation / Recovery Incentives Policy Law	Municipal Law No. 192/2014 and Decree nº 479/2015
Tax Law	Municipal Law no. 191 of 2014
Incentives	Municipal Laws No. 192 and 193/2014
Law on the creation of conservation units and/or protected areas	Municipal Law No. 023/2002
Normative Instruction	NI No. 01/2016
Ordinance	Ordinance No. 110/2013
Law that regulates the Green ICMS	Municipal Law No. 195/2014
Law that adds item 4 to art. 57 of municipal law No. 164, of May 22, 2013 - Brasil Novo's environmental code	Municipal Law No. 284/2019
Law that provides for the collection of fees arising from the activities of licensing, inspection and monitoring, due to the quality control of environmental and the exercise of the Environmental Police Power of competence of the Municipal Environment Secretariat - SEMMA of the municipality of Brasil Novo	Municipal Law No. 307/2021
Decree that provides for the procedures and criteria for the establishment of environmental licensing processes, in any of its modalities and its renewal, within the scope of the Municipal Environment Secretariat - SEMMA	Decree No. 187/2021
Normative Instruction that establishes the procedures for environmental regularization and licensing to be carried out with the Environment Secretariat - SEMMA of projects and/or activities through the Simplified Environmental Report - Ras	IN No. 001/2022

Source: SEMMA Brasil Novo, 2022.

3.1 Environmental Policies, Projects and Programs of Brasil Novo

Brasil Novo has a poor record when it comes to preserving the environment, having cleared the forest on its territory for years. In the municipality there are many private properties with cattle, in large areas deforested for the deployment of pastures.

In 2013, after deforesting about 41% of its permanent preservation areas, the municipality of Brasil Novo entered an embargo process, becoming part of the list of deforesting municipalities in the Amazon. In 2014, Brasil Novo was removed from the list of deforesters in the Amazon and received the Green Municipality Award. According to the Planning Secretariat of the State of Pará, in 2016, the municipality of Brasil

Novo renewed the pact against deforestation in the state, following, in this way, within the Green Municipalities Program (PMV) of the state of Pará.

For this reason, the municipality was forced to find mechanisms to curb deforestation and soil degradation. In the midst of the solutions, the Planning Secretariat of the State of Pará implemented Economic and Ecological Zoning, which tripled the number of Rural Environmental Registrations (CAR). Less than a year after the end of the embargo, the municipality enacted laws that can guarantee the adhesion of producers, previously accustomed to extensive livestock farming, the basis of their economy, to obtain income by conserving the forest or restoring their areas.

With the need to regularize the municipality and address the loss of forests in the Amazon under Brasil Novo, there was also the implementation of the Plan for Prevention, Control and Alternatives to Deforestation in the Municipality of Brasil Novo – Pará (PPCAD-BN/PA). The Plan was drawn up in 2013 with the political understanding of the local chief executive at the time that it was necessary to progressively reduce the rate of deforestation in the municipality and consolidate the conservation of the remaining forest in the municipality, ensuring strict protection where necessary and reconciling the rational use and reduced impact of resources. All of this is in line with alternatives for economic development and social inclusion, in which the use of natural resources replaces activities that have historically been inadequate for sustainable economic growth, social inclusion and maintenance of the balance of the natural heritage.

The PPCAD-BN/PA guides, since its creation, the organization and prioritization of deforestation control strategies, through three main areas:

1. Territorial, Land and Environmental Management: defines and lists the priority actions for land and environmental regularization in the municipality;

2. Promotion of Sustainable Activities: defines and lists the set of actions that should encourage the adoption of new economic models, thus contributing to the change in development paradigm and, therefore, preventing deforestation;

3. Monitoring and Control: defines and lists the fundamental actions to improve the efficiency of deforestation control in the municipality.

Among the main activities of the plan are the implementation of the Rural Environmental Registry (CAR) of private lands and agrarian reform settlements in the municipality, the massive recovery of degraded areas and the establishment of a system of integration and information management among the bodies responsible for control activities. As a result attributed to the PPCAD of Brasil Novo, the municipality now has more than 80% of the properties registered in SICAR-PA, of which 223 registrations have already gone through the analysis process and are validated.

Created by Law No. 192 of November 20, 2014 and regulated by Decree No. 479 of December 15, 2015, the *Brasil Novo Water Conservation* project aims to recover the Jauruçu river basin, with the implementation of actions to improve the quality and quantity of water and financial support to rural landowners. The project grants incentives (payments for environmental services – PAS) to rural property owners who adopt conservation practices aimed at maintaining and recovering their permanent protection areas (PPAs), in order to ensure the maintenance of environmental services related to the conservation of biodiversity, water resources and carbon stocks. The Brasil Novo Water Conservation project foresees the Municipal Environment Secretariat (SEMMA) as the competent agency for the management, but it is executed through a sum of efforts between the Amazon Environmental Research Institute (IPAM), the Socio-Environmental Institution (ISA) and the Federal University of Pará (UFPA). This project was award-

ed in the Sustainable Production and Incentives for Conservation within the Good Environmental Practices Award of the IBAM Environmental Management Qualification Program.

The project for *Deployment of Demonstrative Units for the Restoration of Legal Reserve and Permanent Preservation Area in the Municipality of Brasil Novo – Pará*, which has been executed by SEMMA of Brasil Novo and the Faculty of Forest Engineering of UFPA, provides for the restoration of the legal reserve and the permanent preservation area of rural properties in an exemplary way and that will encourage small rural producers to adopt best environmental practices as an income generation mechanism. For the implementation of the project, the identification of rural producers, visits to properties and environmental diagnostics, construction of nursery, production of furniture, support of Technical Assistance and Rural Extension (ATER), monitoring, dissemination and environmental education were conducted.

In the productive sector, there is a strong partnership between SEMMA and the Municipal Secretariat of Agriculture and Mining (SEMAM) of Brasil Novo, which, together with the third sector, seek mechanisms to associate forest restoration with fruit trees, technical assistance and the feasibility of production chains. As such, SEMAM develops, in partnership with SEBRAE and the Amazon Environmental Research Institute, the Sus- tent and Inova project. The initiative has served 40 families in Brasil Novo with individual and collective technical assistance, support in the transition and adoption of new agricultural production technologies, training in production systems, support in accessing credit and organizing processes for the environmental adaptation of rural property, and support in strengthening local organizations.

In another of the actions and projects together, SEMAM, SEMMA and the Sustainable Territories Program (Government of the State of Pará), implemented, in Brasil Novo, the recovery of degraded areas through agroforestry systems (SAFs) with a focus on fruit species of cocoa and açaí. Currently, 100 families are benefiting from the project and are working on the restoration of 110 hectares.

The choice of cocoa is due to the strong production and consolidation of the chain in the state of Pará. The municipalities of Medicilândia, Uruará, Altamira, Placas, Novo Repartimento, Brasil Novo, Anapu, Tucumã, Vitória do Xingu and Rurópolis stand out in Pará's cocoa production. The data collected by the Planning/Statistics Center (NUPLAN), of the Secretariat for Agricultural Development and Fisheries (SEDAP), based on the study by the Brazilian Institute of Geography and Statistics (IBGE), show that cocoa production last year was 144,663 tons, with an average productivity of 964 kilos per hectare.

In an interview with the consultancy, the head of the Executive Committee of the Cocoa Farming Plan (CEPLAC) reported that the municipality of Brasil Novo produced 8,000 tons of cocoa beans on 12,000 hectares of cultivated area in 2021. The average per kilo of cocoa beans is R$10.80 in the region, with a peak harvest in August. The commercialization of almonds is done in direct negotiation between producers, industries and sharecroppers, which has made it difficult to accurate data on local production. Also during the interview with the representative of CEPLAC, it was pointed out that the municipality still does not have a headquarters of the Treasury Secretariat and has not stimulated the issuance of an invoice for the commercialization of cocoa. As a result, the taxation of this activity is neglected and is sometimes accounted for in the municipality of Medicilândia, due to the need to sell to the largest local buyer, the multinational food production and processing company Cargill.

As a municipality with a strong presence of cattle breeding, Brasil Novo has an office of the Agricultural Deficiency Agency of the State of Pará, which has carried out annually the campaign of updating the Animal Transit Guide (GTA) and the vaccination campaign against Foot and Mouth Disease. Today the

cattle herd of the municipality is approximately 300 thousand animals, with 95% of the cattle with vaccination coverage against Foot-and-Mouth Disease and which, for the most part, is sold to the JBS refrigerator.

Although the municipality has a long history of degradation and the search for environmental restoration and protected areas, it still has great natural heritage, as in the case of Cachoeira Planaltina, located at Estrada Vicinal 15, 10km from the central area of the municipality of Brasil Novo. In addition to the Planaltina Waterfall, there is also the Planaltina Cave, the only sandstone cave in Brazil, with salons and galleries that attract many tourists, in addition to sports practitioners. (Figure II)

Figure II: Cachoeira and Caverna Planaltina, in the municipality of Brasil Novo (PA).

Source: Integrated Management Plan, 2011.

4. Conclusion

Brasil Novo is a significantly new municipality and marked by the colonization of the Amazon promoted by the federal government through agricultural export development models, which generated several imbalances and drastic results in terms of land, deforestation and fires.

As a result, in 2007, the municipality was included in the "List of Priority Amazonian Municipalities for Actions to Prevent, Monitor and Control Illegal Deforestation", which underwent a process of immense resilience. It left the title of "deforester" and now bears the title of Green Municipality. Over the last 10 years, the Municipal Secretary of the Environment, the Municipal Council of the Environment, the Municipal Environment Fund and robust and innovative legislation have been created.

But there are still other challenges that can add up in the expansion of municipal management and governance. The elaboration of an Environmental Management Plan, with the strong presence of the participation of extractivists, indigenous peoples, public authorities, producers of family farming, tends to contribute to the strengthening of local belonging, exchange of good practices and expansion of innovative solutions.

Chart II presents the analysis of impacts generated by projects that touch the environmental agenda of the municipality of Brasil Novo, using a qualitative scale, as follows: i) no: when the actions were not developed or the results obtained are reduced; ii) partial: they present limited growth and iii) effective: when the changes presented are significant.

CHART II: Evaluation of the actions performed in the Municipality of Brasil Novo (PA)

	Actions	No	Partial	Effective	Situation Analysis
1	**Raising awareness and stimulating CAR**				Brasil Novo registered more than 80% of the municipality's properties in SICAR-PA, through a large campaign carried out by SEMMA. Currently, 223 registrations have already gone through the analysis process and are validated.
2	**Municipal Environment Secretariat**				Created in 2013, based on a Term of Conduct Change (TAC) that the municipality undertook to withdraw from the embargo. Currently, the Municipal Environment Secretariat has a technical team composed of commissioned public servants.
3	**Municipal Environmental Fund**				The municipality allocates 100% of the Green ICMS to the Municipal Environment Fund.
4	**Environmental Policy Governance Body**				Currently there is the Advisory Council on Environment and Agriculture, with equal participation between civil society and public authorities. The creation of the Council was the subject of a Term of Conduct Change (TAC), with which the municipality undertook to withdraw from the embargo.
5	**Articulations and partnerships between NGOs, universities and state/federal government**				Since the creation of Brasil Novo's environmental agency, programs and projects have brought together experiences and resources from different sources. All projects in force at the Municipal Environment Secretariat (SEMMA) have the collaboration of partners (preparation, monitoring and/or execution).
6	**Training of technicians from the environmental agency**				Between 2021 and 2022, SEMMA technicians were trained in Analysis and Validation of the Environmental Registry (CAR) by the municipality. In addition to 2 technicians trained in Environmental Agent Training.
7	**Environmental Education**				As an activity developed by the project for Deployment of Demonstration Units for the Restoration of Legal Reserve and Permanent Preservation Area in the Municipality of Brasil Novo – Pará, an Environmental Education Program was implemented that discusses the water issue, urban waste, Brazilian environmental legislation and recovery of degraded areas. In addition to relying on the training of public school teachers in environmental education, in a contextualized way.
8	**Development of sustainable productive activities with income generation and environmental quality**				The municipality of Brasil Novo has restoration projects with AFSs and Payment for Environmental Services (PSA) for rural property owners who adopt maintenance and recovery practices in the Jauruçu river basin.
9	**Environmental monitoring**				The Municipality of Brasil Novo has worked on the issue of identifying degraded areas through the analysis of licensing processes, where degraded areas are identified through georeferencing tools, carrying out the multi-temporal analysis of land use in each property, with the information confirmed through field visits. If the liability is recognized, the area is delimited and the owners need to sign an Environmental Commitment Term – TCA, in which they undertake to regularize these areas environmentally.
10	**Restoration of degraded areas**				Through the Deployment of Demonstration Units for the Restoration of Permanent Preservation Areas project in the Municipality of Brasil Novo – Pará, there is a practice of recovery of degraded areas and dissemination with local producers who seek to recover their environmental liabilities.
11	**ATER to monitor rural producers**				In collaboration with SENAR and other partners, the municipality has been working with ATER for families, focusing mainly on the recovery of degraded areas and the strengthening of the cocoa chain. However, there is a backlog as the teams are unable to serve all the families who request assistance.
12	**Agricultural mechanization**				Support in the maintenance of permanent crops and soil preparation for plantations. In 2021, more than 300 hectares benefited from mechanization.
13	**Supply of inputs for the recovery of degraded areas**				The municipality of Brasil Novo has a nursery for seedlings of fruit, ornamental and timber species, which produced 130 thousand seedlings in 2021. The seedlings are distributed through the registration of the rural producer and can be made more than once a year.
14	**Best practices and innovative actions**				In order to promote the environmental regularization of the rural area of the Municipality of Brasil Novo, the Municipal Law that provides for fees was updated on May 25, 2021, establishing the exemption from the collection of fees for the license of rural activity of properties characterized as family farming.

ANNEX 3

Terms of Reference

Project: Cooperation with the Amazon Fund/BNDES	**PN:** 15.2132.7-002.00
Output + activity: 3 + 3.5	**Technician responsible:** Alef Brito
Objective: Evaluate the effectiveness of seven projects focused on evaluating the effectiveness of municipal projects under the Amazon Fund/BNDES	

Effectiveness Evaluation of Projects in the Municipal Theme under the Amazon Fund/BNDES

1. INTRODUCTION AND GENERAL INFORMATION

Within the scope of the cooperation project between Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) and the National Bank for Economic and Social Development (BNDES)/Amazon Fund, one of the actions supported by GIZ is the evaluation of the ex-post effectiveness of the projects, with the objective of giving visibility to the results and lessons learned from these projects, in addition to promoting the institutional learning of the Amazon Fund itself (FA). Furthermore, the evaluation of closed projects is a demand by donors and international cooperation actors for monitoring and evaluation actions, through an external and independent evaluation.

To date, evaluations of 18 completed projects have been carried out, the results of which are publicly available on the Amazon Fund's websita[92]. The next projects to be evaluated, and object of these Terms of Reference (ToR), fall into components 1 – Sustainable Production, 2 – Monitoring and Control and 3 – Land-use Planning.

It is also important to note that, in 2019, the mid-term effectiveness evaluation by the Amazon Fund was conducted[93], covering the period from 2008 to 2018. The evaluation was carried out by a team of independent consultants, with the technical coordination of the Economic Commission for Latin America and the Caribbean (ECLAC), of the United Nations (UN). At the same time as the evaluation, two complementary thematic studies were prepared, which served as subsidies for the evaluation, one study dedicated to the distribution of benefits from the Amazon Fund and another dedicated to Rural Environmental Registry (CAR) projects supported by the Amazon Fund.

To understand the results and impacts achieved and identify possible paths to greater efficiency of the projects included in the theme of support to the municipalities of the Brazilian Amazon, the ToR aims to carry out a thematic and joint evaluation of seven closed projects, namely:

- Brazilian Institute of Municipal Administration (Ibam)
- Municipality of Porto dos Gaúchos
- Municipality of Marcelândia
- Municipality of Alta Floresta (Phase 2)
- Municipality of Jacundá
- Municipality of Cotriguaçu
- Municipality of Carlinda

The objective of these ToR is to evaluate the effectiveness of these projects, considering the initiatives that sought to support the physical structuring of municipal environmental agencies and strengthen municipal environmental management. Furthermore, the projects will be evaluated together and in a thematic way to increase the efficiency of the evaluation, expand the understanding of the results achieved by the projects, especially their overall impacts and generate recommendations to the

92 92 Available at: http://www.fundoamazonia.gov.br/pt/monitoramento-e-avaliacao/avaliacoes-externas/

93 Available at: http://www.fundoamazonia.gov.br/pt/monitoramento-e-avaliacao/avaliacoes-externas/

actors involved in the scope of municipal environmental management in addition to supporting individual projects.

1.1. Context of the projects

The control of deforestation and the conservation of the Amazon have long been considered the main challenges of the Brazilian environmental agenda, and over the years the Brazilian government has worked with public measures and policies to halt the loss of biodiversity and guarantee the standing forest. Despite its efforts, the federal government is unable to fully exercise its function as administrator and protector of the territory. Therefore, it is necessary to involve other government agencies at different levels (federal, state and municipal) to achieve conservation goals and reduce deforestation in the Amazon.

Over the years, the Brazilian government has worked to develop public policies to reduce deforestation rates in the Amazon, especially when analyzing the rates between 2004 and 2012, which showed a significant decrease in deforested areas. These results are related to the policies implemented during this period, especially those related to the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm). Created in 2004, the Plan aimed to continuously reduce deforestation in Amazonia and create favorable conditions for the transition to a sustainable development model in the Brazilian Amazon.

However, the actions of the federal and state governments of the Amazon are not enough to fulfill their role as agents of protection and conservation of the territory. It is necessary to coordinate all levels of the public sphere, and it is in this context that the Municipal Support Projects, financed by the Amazon Fund, have been developed, with the main objective of strengthening the environmental management of priority municipalities for the conservation and protection of forests.

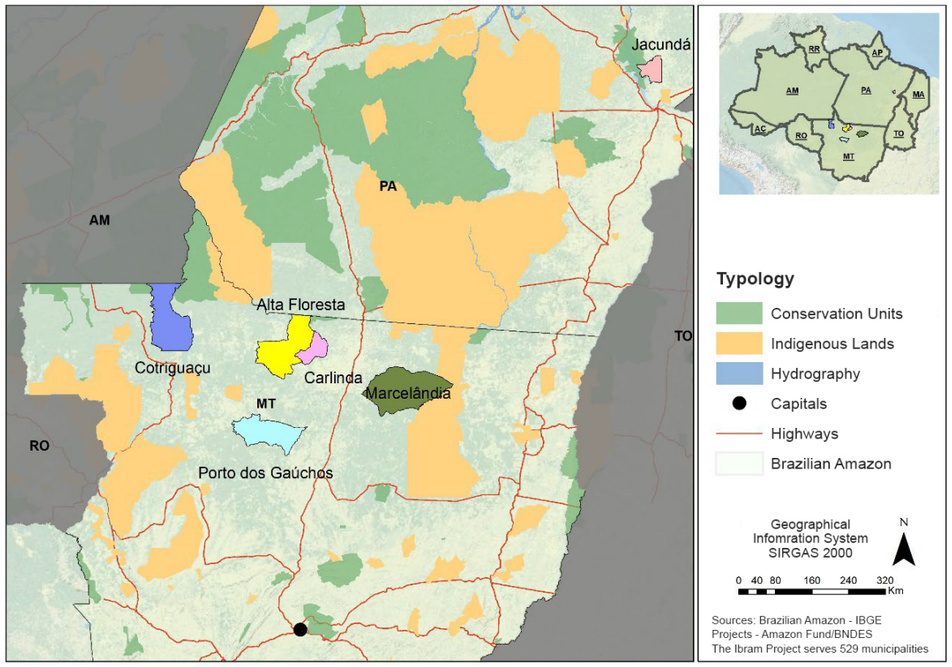
The projects to support municipalities with the Amazon Fund's resources were developed in the context of high deforestation rates. In common, the six municipalities (Map 1) are located in the region known as the "Areas under intense pressure for deforestation", which comprises the region where the highest rates of deforestation in the Amazon are located. Through Decree No. 6.321 of December 21, 2007, the Federal Government established a series of actions to prevent, monitor and control illegal deforestation in the Amazon biome. Among such actions, the List of Priority Municipalities is mentioned, which receives this name since in these municipalities the measures of integration and improvement of the actions of monitoring and control of federal agencies, land and land-use planning and the encouragement of environmentally sustainable economic activities will be prioritized. As such, five[94] of the six municipalities where[95] projects were implemented (Figure 1) had their names associated with this list and all six municipalities suffered great threats of deforestation.

Furthermore, the advance of the agricultural frontier into the interior of the Brazilian Amazon has increased deforestation in this region. The supported municipalities have undergone rapid expansion in their occupation processes, basically through livestock, agriculture and unregulated logging. Thus, the municipalities presented problems of degradation of permanent preservation areas, fires and illegal deforestation.

94 The municipalities of Alta Floresta, Carlinda, Cotriguaçu, Marcelândia and Porto dos Gaúchos were part of the List of Priority Municipalities and the municipality of Jacundá, despite not being included in the list, was part of the so-called "Areas under intense pressure for deforestation".

95 Regarding the project "Environmental Management Qualification Program" conducted by IBAM, it has been implemented in different municipalities in Brazil.

Figure 1: Municipalities supported by the projects



The strengthening of Municipal Environmental Management through the physical and operational structuring of municipal environmental secretariats was the main objective of the projects that will be evaluated. With the strengthening of the secretariats, some operational strategies have been used to reduce the pressure on the region. In general, the set of strategies aimed to contribute to a shared environmental management, with an emphasis on the issues of environmental and land regularization of rural properties, and consequently assisting in the monitoring and control of deforestation in the municipalities.

Thus, the evaluation is expected to show that the strengthening of environmental management by the municipal environmental secretariats has contributed to the Amazon Fund's general objective, which is to reduce deforestation through sustainable development of the Brazilian Amazon.

Summary of the projects

Project title	Implementing institution	Period	Value of support from the Amazon Fund	Objective
Jacundá, Green Economy Municipality	Municipality of Jacundá	2012 to 2019	R$199,352.05	Support the strengthening of municipal environmental management, through the physical and operational structuring of the Municipal Environment and Tourism Secretariat
Buriti Springs	Municipality of Carlinda	2011 to 2020	R$ 1.875.500,94	Support the strengthening of local environmental management through the physical structuring of the Secretariat Municipal Environment and Tourism Secretariat, and support the recovery of 1,722 hectares of permanent preservation areas (PPAs) around springs
Amazon's Water Springs - Phase II	Municipality of Alta Floresta	2013 to 2018	R$ 7.146.563,54	Support the recovery of degraded areas and the development of productive activities with a view to the environmental regularization of rural properties of family farming in the municipality of Alta Floresta
Preserving Porto dos Gaúchos	Municipality of Porto dos Gaúchos	2011 to 2013	R$ 120.655,00	Strengthen municipal environmental management, through of the physical and operational structuring of the Municipal Environment and Tourism Secretariat
Environmental Management Qualification Program	Brazilian Institute of Municipal Administration (Ibam)	2013 – current	R$ 18.853.482,32	Support 529 municipalities in AML, strengthening environmental management in municipalities in the Amazon biome by offering training and technical assistance; disseminating knowledge and information in a network; and encouraging innovation and promotion of articulation with other spheres of government and society in general, within the scope of environmental public policies.
Recovering Marcelândia	Municipality of Marcelândia	2011-2017	R$ 551.556,98	Support the strengthening of municipal environmental management and the recovery of degraded areas around 50 springs in the sub-basin of the Manissauá-Missu river, located near the urban area in the municipality.
New Paths in Cotriguaçu	Municipality of Cotriguaçu	2014-current	R$ 1.567.845,25	Support the strengthening of environmental management in the municipality of Cotriguaçu through: (i) construction and physical structuring of the headquarters of the Municipal Environment Secretariat; (ii) recovery of degraded permanent preservation areas (DPPAs) in rural properties of up to four fiscal modules and around water bodies in public areas; and (iii) deployment of demonstration units for recovery and pasture management

1.2. Main results of the projects

Project	Results
Brazilian Institute of Municipal Administration (Ibam)	he project activities contributed to the results related to the "monitoring and control" component (2) of the Amazon Fund's logical framework. The distance learning action, which was one of the main actions of the PQGA, managed to exceed the goal of trained public servants by 667%, reaching 4,627 people. The legal advice provided by the PQGA answered 20% more queries on the internet portal than the goal established in the project. The high adherence to the award of good municipal practices, with four times more registrants than the target, was an expressive result that indicates that the project has achieved a good presence in the municipalities of the region
Municipality of Alta Floresta (Phase 2)	The Rural Environmental Registry of 445 rural properties was rectified, with 3,368 beneficiaries of areas with recovery of springs and river courses. In support of sustainable production chains, the following results stand out: consolidation of 99 tanks for fish farming; deployment of the municipal apiary with permanent breeding of stingless bees native to the Amazon, with 300 boxes of bees distributed to farmers; implementation of 20 organic production units and adoption of Good Agricultural Practices (GAP), targeting 103 families, in addition to 20 demonstration units of four hectares each in GAP. In addition, the georeferencing of 730 perimeters of rural properties and the structuring of the environmental monitoring platform in the Environment Secretariat of Alta Floresta were carried out.
Municipality of Carlinda	Materials and equipment were acquired for the physical and operational structuring of SEMMAT in Carlinda and the municipal nursery was renovated. As a result, seeds and seedlings were provided to start the forest restoration process in 534 rural properties and 74 farms. Three municipal employees were trained, who made 614 visits to provide technical assistance in rural properties and farms. Lectures and awareness-raising workshops on PPA conservation and reforestation were also held, with the participation of 4,136 people, including rural producers and students from state and municipal schools in Carlinda.
Municipality of Cotriguaçu	The building of SEMA's new headquarters was put into operation with the support of the project, and furniture, air conditioning, telephone exchange and other equipment were purchased. 134 hectares of PPAs were recovered in 42 small rural properties and in six public domain areas of the municipality. Furthermore, in the six properties selected as Pasture Management Demonstration Units (UD), soil preparation was carried out, with the addition of limestone and fertilizer.
Municipality of Jacundá	With the actions of the project, it was possible to complete the renovation and expansion of the SEMATUR secretariat building, with its entry into regular operation.
Municipality of Marcelândia	The Municipality of Marcelândia produced 125 thousand seedlings in its nursery, of which 85 thousand were distributed. These seedlings were destined both for the springs restored under the project and for the restoration of areas of other producers in the municipality. Regarding the number of rural properties that had their adhesion to the recovery of degraded areas filed, a total of 50 springs were registered, with 37 rural properties adhering to the recovery program. The recovery process began on 38.25 hectares in the 50 springs supported by the project. At the beginning of the project, in 2013, the secretariat's budget was R$248 thousand, in 2016 it was R$460 thousand, which represents an increase of 86%. It is noteworthy that in 2015, the value allocated to the municipal environmental agency reached R$788 thousand.
Municipality of Porto dos Gaúchos	Basic instruments were acquired for environmental management actions, physically and operationally structuring its Municipal Environment and Tourism Secretariat (SEMATUR), such as: i) computer, multimedia and GPS equipment; (ii) furniture; and (iii) pick-up and boat.

2. JUSTIFICATION

The contracting is justified by the need to develop the institutional learning of the Amazon Fund from the analyses and results obtained through the Evaluation. Furthermore, it is important for BNDES to recognize in the evaluation that the strengthening of environmental management by the municipal environmental secretariats has contributed to the Amazon Fund's general objective, which is to reduce deforestation through the sustainable development of the Brazilian Amazon.

3. EVALUATION OBJECTIVES

The main objective of this thematic effectiveness evaluation is to measure the results and impacts achieved by the projects and their effects, considering the relevance, efficiency, efficacy and sustainability of the changes generated by the seven projects to support municipalities under the Amazon Fund/BNDES.

All projects supported by the Amazon Fund follow an individualized logical framework that defines the results (outputs and services to be delivered or outputs), the direct effects of the intervention (specific objectives or outcomes) and the indirect effects (overall objectives or impacts) to be achieved. This is the logic of project intervention, also called theory of change, because it represents a model of thinking that explains how the project is expected to cause a desired change. The logical frameworks of the projects can be viewed in the topic 3.2 or on the Amazon Fund website.

The specific objectives of this evaluation are to:

- Assist the Amazon Fund in accountability to its donors on the type of project supported and its effects;

- Enable institutional learning of the Fund itself, contributing to improve the quality of projects and the prioritization of investments, thus subsidizing decision-making;

• Verify compliance by projects supported by the Amazon Fund with the Cancun safeguards agreed under the UNFCCC for REDD+ actions;

• Analyze the strengths and weaknesses of the project intervention;

• Verify to what extent the project is relevant, efficient, effective, sustainable and generates impacts;

• Evaluate the effectiveness of support from the Amazon Fund in relation to support for municipal projects; and

• Identify challenges and lessons learned, which can even serve for national and international dissemination.

3.1. Task description: object and focus of the evaluation

To achieve the objectives identified in the previous topic, the target projects of this evaluation, implemented between 2011 and 2015, will be observed, focusing on the intervention areas of the projects and on the observation of their direct and indirect effects presented in the objectives diagram in the topic 3.2. Thus, the following results must be observed:

a. Impact of the project in the municipality of operation and in other municipalities in the surrounding area, with the establishment of governance arrangements to act on forest issues.

b. Physical and operational structuring of the Municipal Environment Bodies of the supported municipalities

c. Strengthening municipal environmental management and shared environmental management at other levels

d. Training of public servants in environmental management issues

e. Recovery of degraded and deforested areas

f. Support in the preparation of management plans for environmental agencies

g. Support in the production of seedling nursery for the recovery of degraded and deforested areas

3.2. Intervention logic

The logical frameworks of the projects to be evaluated give rise to the respective objectives diagram, which present the indirect, direct effects and outputs and services of each one, facilitating visualization for monitoring and evaluation. The objectives diagram of the projects to be evaluated are shown below.

Logical Frameworks Objectives Diagrams of the evaluated projects:

Figure I: "Environmental Management Qualification Program – Amazon Biome Municipalities" Project Objectives Diagram"

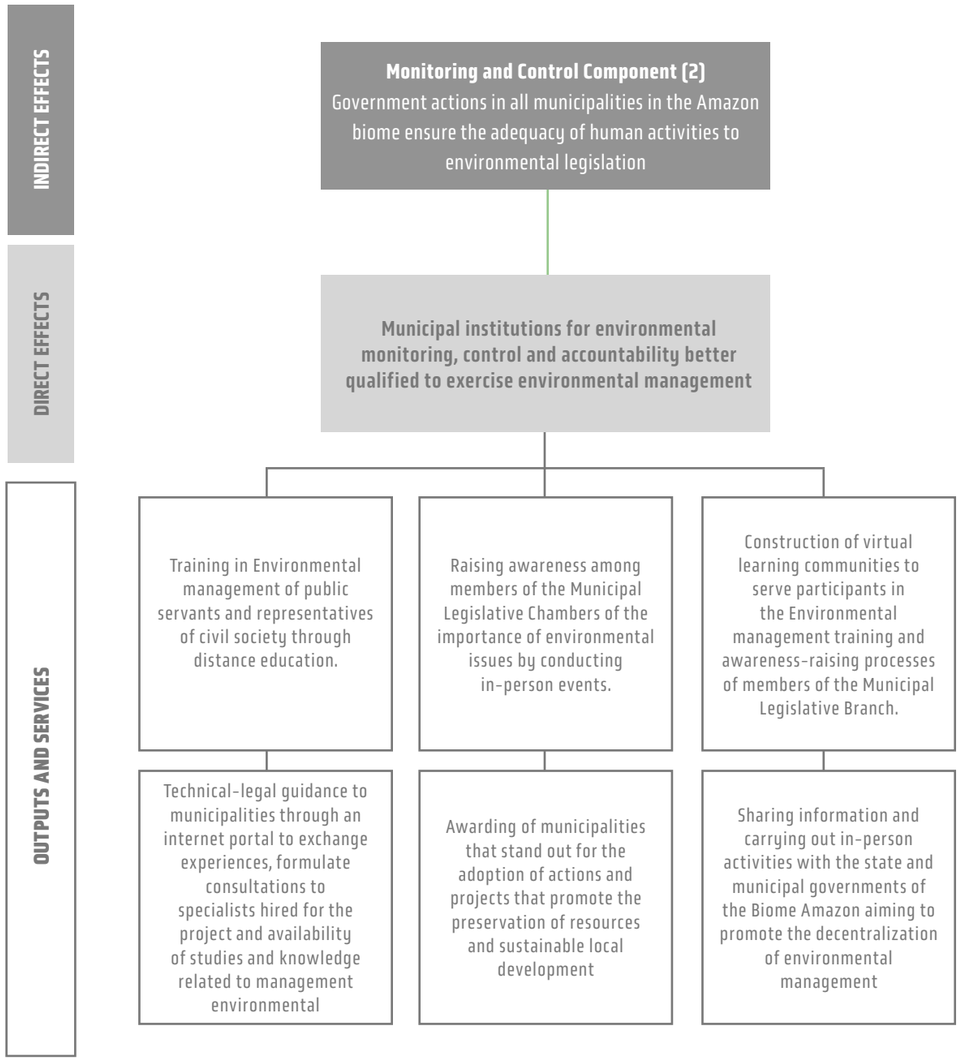


Figure II: "Preserving Porto dos Gaúchos" Project Objectives Diagram

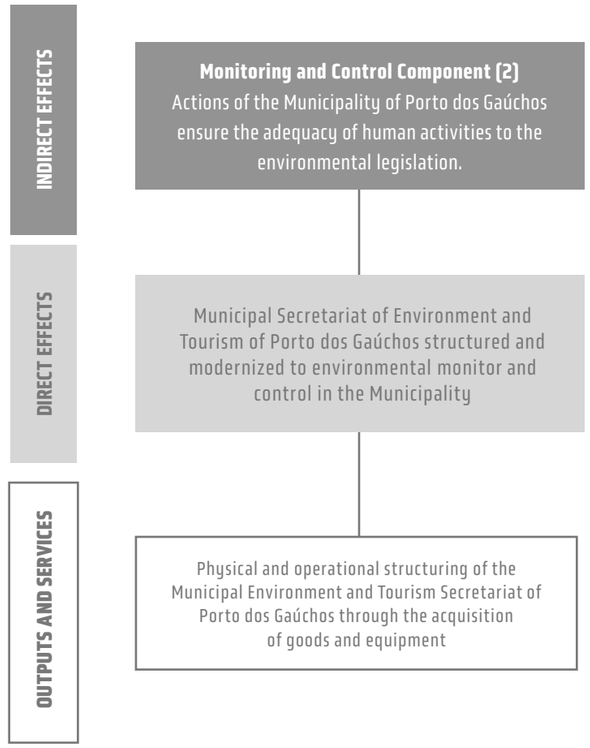


Figure III: "Recovering Marcelândia" Project Objectives Diagram

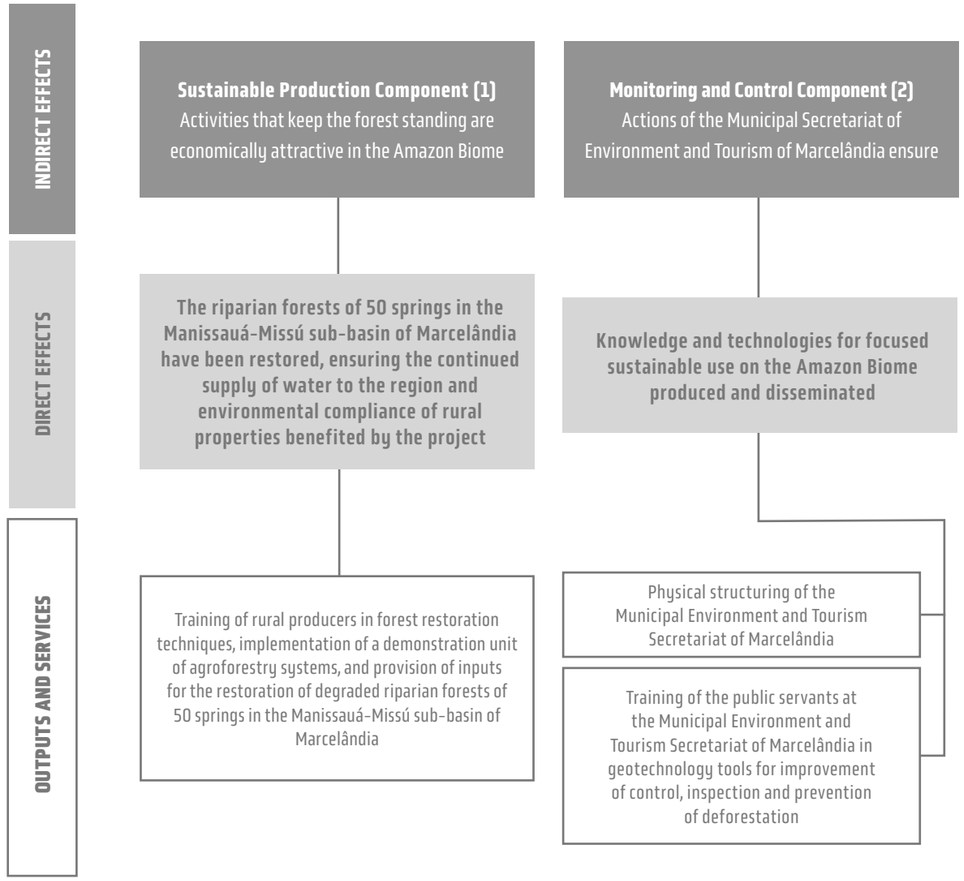


Figure IV: "Jacundá, Municipality of Green Economy" Project Objectives Diagram

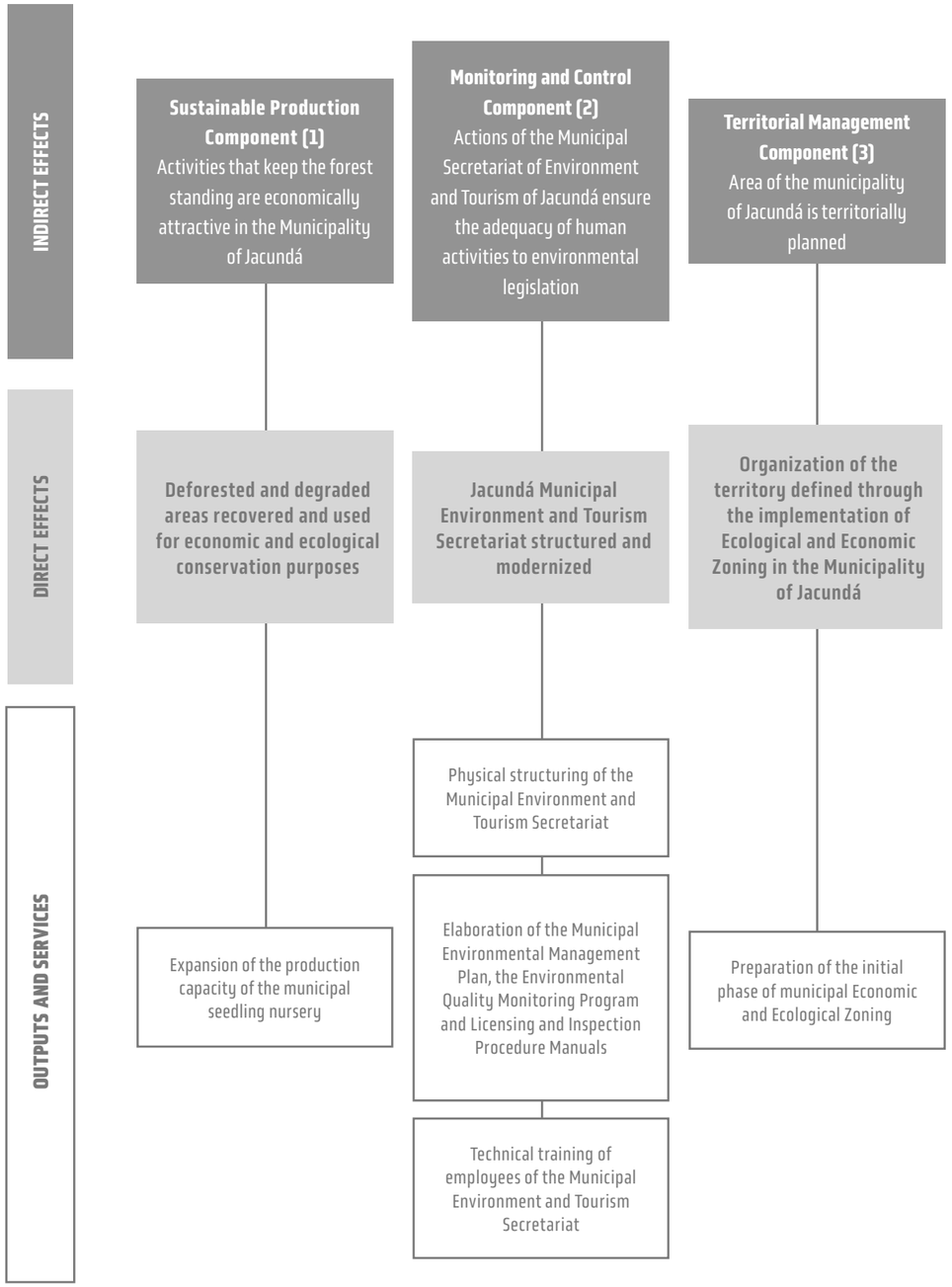


Figure V: "New Paths in Cotriguaçu" Project Objectives Diagram

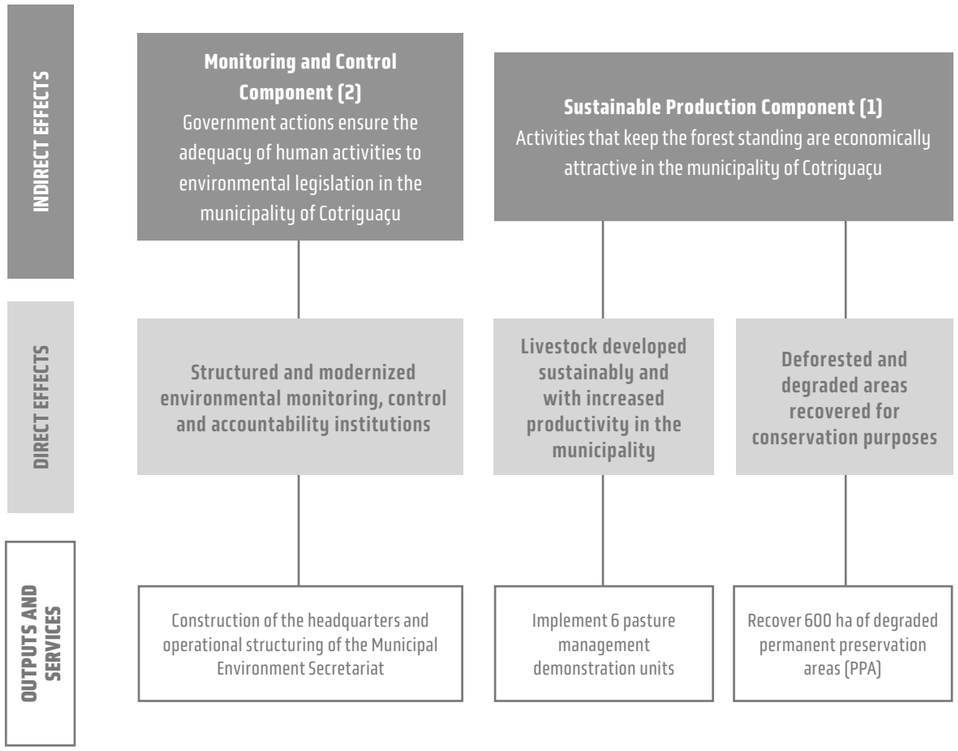
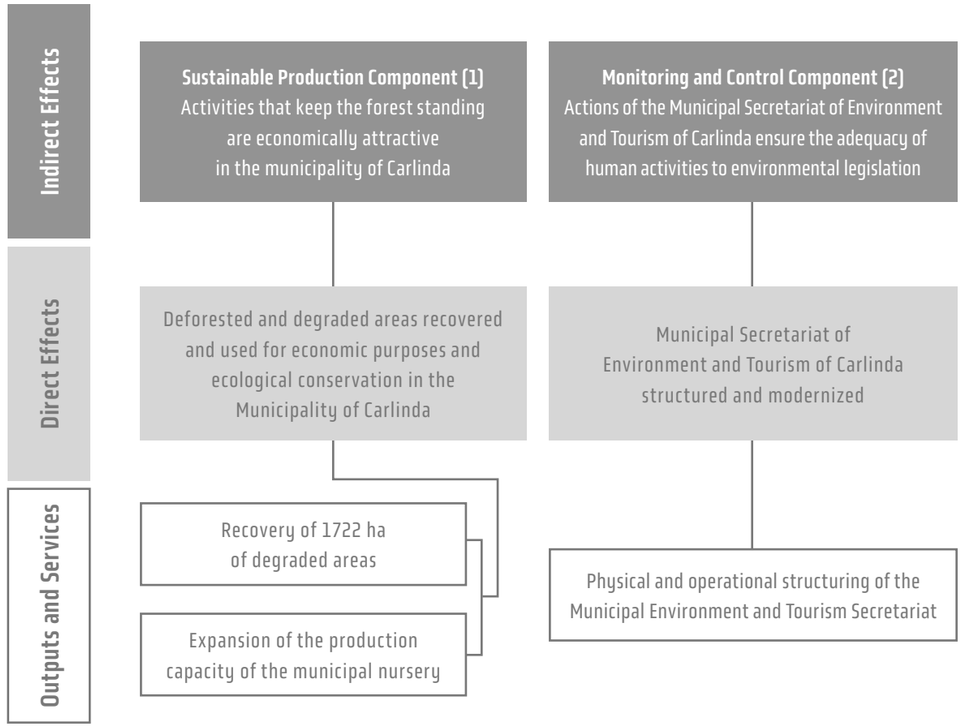


Figure VI: "Buruti Springs" Project Objectives Diagram



3.3. Key questions and evaluation criteria

The evaluation of the thematic effectiveness of the seven municipal projects will comply with the guidelines and criteria specified in the document Effectiveness Evaluation of Projects Supported by the Amazon Fund – Conceptual Framework and its respective addendum.

These criteria are based on the Organization for Economic Cooperation and Development (OECD) and the safeguards for Reducing Emissions from Deforestation and Forest Degradation (REDD+), which were defined by the Framework Convention (in Annex I of Decision 1/CP 1641 and the guidelines of Decision 12/CP 17), and on the selected transversal criteria. Each criterion adopts a basic script of guiding questions to be applied and answered in the evaluation of the projects and which must be complemented in the Effectiveness Evaluation Design Report, as the evaluation team deems necessary. This evaluation will select the guiding questions that make sense according to the objectives of each project, which can be supplemented by specific questions if necessary.

Below is the summary table of criteria and respective guiding questions:

3.3.1. OECD Criteria, Transversal Themes and Evaluation Issues

Criteria	Guiding Questions
Relevance	Did the projects contribute jointly and overall to the achievement of the Amazon Fund's objectives?
Efficacy	Have the overall direct effects been achieved?
Efficiency	Is the cost-effectiveness of project activities consistent with each other?
Impact	What were the main overall effects of the projects? Were there overall impacts? Did they demonstrate scalability in the territory?
Sustainability	Are the overall effects achieved by projects lasting? Has sustainability been achieved?
	Transversal Criteria
Poverty Reduction	In what ways did the projects have an overall influence on poverty reduction, social inclusion and improvement in the living conditions of the beneficiaries living in their areas of activity?
Gender Equity	Have the projects integrated overall gender issues in the planning and implementation of their activities? How and what results can be observed?

3.3.2. REDD+ Safeguards and Evaluation Issues

Criteria	Guiding Questions
1. Actions complementary to or consistent with the objectives of national forestry programs and other relevant international conventions and agreements.	• Did the projects demonstrate alignment with the Plan for the Prevention and Control of Deforestation in the Brazilian Amazon (PPCDAm) (PPCDAm) and the state plans for the prevention and control of deforestation? • To which other federal public policies or international agreements have the projects demonstrated alignment? In which aspects? • Have the projects contributed or could they contribute directly or indirectly to the reduction of emissions from deforestation or forest degradation? In what way?
2. Transparent and effective national forest governance structures in view of national sovereignty and legislation.	• To what extent have the projects promoted articulation between various actors (public sector, private sector, third sector or local communities)? Were shared governance bodies used? Which ones? • To what extent have the projects contributed to strengthening public instruments and forest and land-use planning processes?

3. Respect for the knowledge and rights of indigenous peoples and members of local communities, Considering relevant international obligations, national circumstances and laws and noting that the UN General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples.	• To what extent have the projects influenced the constitutional rights associated with the possession and formal destination of land in their area of activity? • To what extent have the projects influenced the sustainable use of natural resources in their area of activity? • If the projects had as direct beneficiaries indigenous peoples, traditional communities or family farmers: were their sociocultural systems and traditional knowledge considered and respected throughout the projects? • Are there effects that interfere with the traditional way of life of these groups? What kind of effects: on social, economic organization or the use of available spaces and resources? How do they interfere: positively, negatively, or both?
4. Full and effective participation of stakeholders, in particular indigenous peoples and local communities, in the actions referred to in paragraphs 70 and 72 of Decision 1/CP 16.	• How did the projects guarantee the prior, free and informed consent, and the local or traditional way of choosing the representatives of their beneficiaries (especially indigenous peoples and traditional communities)? • What participatory management tools did the projects apply during decision making? • In case of projects with economic purposes: were any benefits arising from the projects accessed in a fair, transparent and equitable manner by the beneficiaries, avoiding a concentration of resources? • To what extent have the projects provided the general public and its beneficiaries with free access and easy understanding of information related to project actions? • Were the projects able to put together a good system for monitoring results and impacts? Did the projects systematically monitor and disseminate the results achieved and their effects?
5. Actions consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70 of Decision 1/CP 16[96] are not used for the conversion of natural forests, but rather to encourage the protection and conservation of natural forests and their ecosystem services and to enhance other social and environmental benefits.	• How did the projects contribute to the expansion or consolidation of protected areas? •How have they contributed to the conservation of natural forests and biodiversity? • Were the investments in income generation projects proportional to the increase in areas under management and, effectively, contributed to avoiding deforestation? • Did the projects contribute to the recovery of deforested or degraded areas? • In the case of restoration and reforestation activities, did the methodologies used prioritize native species? • To what extent did the projects contribute to establishing recovery models with an emphasis on economic use?
6. Actions to address the risks of reversals in REDD+ results.	• What factors pose risks to the permanence of REDD+ results? How did the projects approach them? Is there a continuous monitoring strategy for these results?
7. Actions to reduce the displacement of carbon emissions to other areas.	•Was there a shift of emissions avoided by project actions to other areas?

96 Decision 1/CP 16: Reduction of emissions from deforestation; reduction of emissions from forest degradation; conservation of forest carbon stocks; sustainable management of forests and increase of carbon stocks.

4. METHODOLOGY

The methodology applied in the evaluation should be based on the criteria and objectives contained in the document "Effectiveness Evaluation of Projects Supported by the Amazon Fund – Conceptual Framework" and its respective addendum, already mentioned in topic 2.3.

The following outputs are expected to be generated: the Evaluation Report and the Indigenous Project Effectiveness Evaluation Report and, in an intermediate stage, a Preliminary Effectiveness Evaluation Report, a product to be used in the Consultation Round.

Below is the methodology proposed for each phase and its respective stages:

4.1. Preparation phase

In this phase, the objectives are defined and the project evaluation plan is developed. After the preparation of the ToR and the hiring of the team of evaluators, the key documents of the evaluation must be organized. For this purpose, the documents, data and reports to be used in the evaluation must be identified to BNDES and to the organization responsible for the execution of each project. The evaluation team will systematically collect data from secondary sources, which aims to compose a “memorandum” that will serve as a source of reference, leveling and memory help for all information related to the evaluated projects.

Subsequently, a methodological proposal for the joint evaluation of the seven projects should be further developed. The methodology must be based on the document Effectiveness Evaluation of Projects Supported by the Amazon Fund – Conceptual Framework and its respective addendum, including survey methods that contribute to the understanding of the effectiveness of the projects according to the reality of each one of them, indications of options of the best places for field missions (considering the places with the highest and lowest effectiveness), prior analysis of the dialogue and risks between indicators of effectiveness of the projects and list of key people to be interviewed. All these methodological elements should be detailed in the Effectiveness Evaluation Design Report, described in the next topic (3.2).

4.2. Implementation phase

Evaluation design and tools. The Effectiveness Evaluation Design Report to be prepared by the evaluation team must present the evaluation work script, the detailed methodology, the description of the field areas to be visited and the tools that will be used during the evaluation. This report shall have the following roadmap:

a) Basic details of the projects;
b) Introduction;
c) Analysis of the ToR;
d) Division of tasks, work plan and logistics
e) Design/Methodology. In this regard, it is necessary to consider the peculiarities of the geographical areas in which the projects operate, since they are located in different parts of the Brazilian Amazon, as well as the ethnic diversity of the populations served, respecting the customs and values of each population.
f) Annexes. The specificities of the projects should be considered, possibly with guiding questions and specific survey methods.

4.2.1. Data collection and analysis

The developed methodology had a diversified format, using three forms of data collection:

i) Non-reactive (secondary sources: project documentation, public and scientific data available in the area of operation of the projects, in addition to the key documents already organized in the preparation phase);

ii) Poll (field research: application of standardized quantitative/qualitative questionnaires, conducting qualitative interviews with individuals or groups, use of situational analysis tools); and

iii) Observation (during visits, participatory or individual; a counterfactual approach may be used, i.e. comparing with similar cases outside the projects).

This is the first phase of data analysis, whose objective is to analyze the intervention logic, the outputs and services performed by the projects and the results achieved. In this stage, it is important to raise the doubts and questions that need to be answered by the executors and beneficiaries and that will serve as input for the next stage, the field mission.

For the counterfactual analysis, the observation of areas that did not have the support of the Fund and that did not undergo interventions or support from other initiatives should be considered. With this analysis it is expected to determine the differences between similar cases outside the projects.

4.2.2. 4.2.2. Field mission (or virtual data collection)[97]

Its objective is to collect part of the data, in person, from a representative sample of the projects' universe, by visiting the region where they operate and surroundings. The mission will take place through field visits, by the evaluation team, for the time deemed necessary (should be detailed in the Effectiveness Evaluation Design Report), up to the limit of 24 days. During these visits, in addition to observing the results and physical benefits of the projects, technicians who worked directly with the projects in the evaluation reference period may also be interviewed. Due to the pandemic caused by the new coronavirus, the on-site field mission may not occur, and the deliveries are carried out virtually. If necessary, a team or local consultant may be hired to carry out field visits in the areas of operation of the evaluated projects and verification of any on-site results.

4.2.3. Preliminary Report

After the information collection, the evaluation team should complement the analysis of the collected data. As such, the Preliminary Effectiveness Evaluation Report of the projects must be prepared. This report should also include an analysis of the results achieved, in addition to the overall impacts achieved by the six projects, in order to generate recommendations. The division of duties and tasks of each member of the evaluation team shall be detailed in the Effectiveness Evaluation Design Report.

4.2.4. Consultation round

At this stage, a workshop (virtual or in-person) will be held, with the participation of the team of evaluators, the team of the Amazon Fund/ BNDES, representatives of the Ministry of the Environment, key people of the project and representatives of the evaluated institution, in addition to some peers, who are the specialists who hold responsibilities under issues related to those of the evaluated projects. The workshop methodology should be described in the Effectiveness Evaluation Design Report.

4.3. Analysis and dissemination phase

Consolidation of the data analysis. Along with the complementary inputs of the Consultation Round, there will be a new analysis based on the comments and justifications presented by the participants.

Final report. The methodology and composition of the Municipal Projects Effectiveness Evaluation Report are specified in the document of the Conceptual Framework for the Effectiveness Evaluation of Projects Supported by the Amazon Fund and its respective addendum. The report must contain, in the main part, up to 45 pages (without considering the cover, summary, indexes of figures and tables, list of abbreviations and acronyms, executive summary and annexes).

Disclosure of results. Presentation of the results and the final report to the beneficiaries of the projects. The Effectiveness Evaluation Report of the projects and its executive summary will be published on the Amazon Fund website.

97 Due to the current situation of the pandemic caused by the new coronavirus, the on-site field mission may not be carried out and for this virtual interviews will be carried out as an alternative way. In addition, there is also the possibility of hiring local consultants who can carry out possible visits to the sites of the evaluated projects.

5. ACTIVITIES, OUTPUTS AND DEADLINES

The following schedule presents the basic roadmap for carrying out the evaluation of the municipal projects. The table contains the activities, services and outputs, as well as the deadlines of the process.

	Activities	Responsibility	Working days	Prazos	Produtos
1	Disseminate ToR.	GIZ (responsible for hiring)	15	19/11/2021	Proposals from consultants received organized.
2	Receive and organize proposals from consultants, hire selected candidates and form an evaluation team (consultants + GIZ).	GIZ	31	14/03/2022	Consultants hired and team trained.
3	• Prepare initial meeting of the team with the Amazon Fund; • Contact the institutions responsible for the projects to be evaluated; • Analyze relevant documents; • Consolidate evaluation methodology prepared and proposed by the external consultants; • Consolidate the proposal for the Effectiveness Evaluation Design Report; • Deliver the Effectiveness Evaluation Design Report to BNDES; Presentation of the Report to the BNDES.	GIZ	20	31/03/2022	Proposed Effectiveness Evaluation Design Report.
4	Comment on the proposed Effectiveness Evaluation Design Report.	GERAV/BNDES DEFAM/BNDES	3	13/06/2022	Proposal for an Effectiveness Evaluation Design Report with comments.
5	Review Effectiveness Evaluation Design Report.	Evaluation team	3	21/06/2022	Report Report of Revised Effectiveness Evaluation Design.
6	Approve revised report.	GERAV/BNDES DEFAM/BNDES	3	21/06/2022	Effectiveness Evaluation Design Report (final).
7	Implement evaluation: - Collect and analyze secondary data; and - Carry out field mission.	Evaluation team	55	05/09/2022	Project data collected and analyzed.
8	Prepare and deliver Preliminary Effectiveness Evaluation Report.	Evaluation team	10	02/09/2022	Preliminary Effectiveness Evaluation Report.
9	Present results (Consultation Round). Evaluation	Evaluation team	1	05/09/2022	Preliminary Effectiveness Evaluation Report with considerations reported in the Consultation Round.
10	Comment on the Preliminary Effectiveness Evaluation Report	GERAV/BNDES DEFAM/BNDES Organizations .responsible for each project	5	13/09/2022	Preliminary Effectiveness Evaluation Report with comments submitted after the Consultation Round.
11	Prepare final evaluation report Evaluation team	Evaluation team	5	20/09/2022	Effectiveness Evaluation Report.
12	Incorporate complementary content for presentation, preface and final review to the Effectiveness Evaluation Report	Evaluation team	3	23/09/2022	Effectiveness Evaluation Report (final).
13	Deliver Final Effectiveness Evaluation Report.	Evaluation team	1	30/09/2022	Effectiveness Evaluation Report.
14	Diagram and translate the Final Effectiveness Evaluation Report and its annexes (version 1: Portuguese; version 2: English).	Designer/ Translator/ Evaluation team	15	24/09/2022	Effectiveness Evaluation Report diagrammed in format for dissemination (Portuguese and English).
15	Disclose and distribute the Effectiveness Evaluation Report.	Team of the Amazon Fund	-	-	Upload on the website of the Amazon Fund/BNDES

6. EVALUATION TEAM

The evaluation will be carried out by a team composed of two people, two (2) of whom will be external consultants to be hired by GIZ after a call for contracts published on the Brazilian Monitoring and Evaluation Network. Furthermore, there will be the monitoring of two/two technical advisors of GIZ to verify the adherence of the evaluation to that defined in the ToR and in the other published documents that govern the effectiveness evaluations of the Amazon Fund's projects.

External consultants should have the following profile:

- One (1) senior or full consultant, with knowledge of national and state public policies in the environmental context and sustainable development in the Brazilian Amazon, experience in the theme of municipal environmental management and shared with other levels/spheres and with experience in monitoring and evaluating policies in projects or programs; and

- One (1) senior or full consultant, with knowledge in socio-environmental policies and environmental management, with experience in the implementation and implementation of questionnaires and data analysis for monitoring and evaluation of public policies.

The qualifications of the team of assessors include the following requirements:

- **Technical knowledge.** In a multidisciplinary way, the team should have experience with work developed with indigenous peoples and knowledge about national and state indigenous policies, sustainable production, environmental policies and sustainability in the context of the Brazilian Amazon, in addition to having experience in monitoring and evaluating these policies and projects on the issues addressed.

- **Methodological knowledge.** Knowledge in the methodologies that will be used to evaluate the projects, in particular, those related to the collection and analysis of data, the measurement of the achievement of results and qualification of the effects achieved with municipal managers. Furthermore, it is important to know instruments that allow the combination of methods to triangulate data collection, in order to increase the reliability of the results.

- **Regional knowledge.** The team should have knowledge of the issues of the Amazon region that are addressed in the context of projects supported by the Amazon Fund, such as social and economic dynamics, invasions by loggers and miners, land grabbing, deforestation and legislative and legal issues, logistics, etc. It is desirable to have professional experience in the Amazon.

The consultants hired cannot have any previous involvement or particular link with the projects to be evaluated. The evaluation team will work without external interference, will have access to the data of the projects to be evaluated and will obtain support to collect all the necessary information. GIZ experts and consultants must treat all documentation of the Amazon Fund and the projects to be evaluated with confidentiality and secrecy, except for the information that must be included in the Effectiveness Evaluation Report.

7. REPORTING, COORDINATION AND RESPONSIBILITIES

Two reports will be produced during the evaluation process: the Evaluation Design Report and the Project Effectiveness Evaluation Report of the Indigenous Projects. The content of these reports will follow that established in topic 8.1.7 of the document Effectiveness Evaluation of Projects Supported by the Amazon Fund – Conceptual Framework.

The evaluation of the effectiveness of the projects will be accompanied by a reference group of the projects, with the following composition:

a. Representatives of the Monitoring and Evaluation Management of the BNDES Planning Area;

b. Representatives of the BNDES's Amazon Fund Management Department;

c. GIZ representatives, within the framework of the cooperation project in force;

d. Representatives of the projects and partners, responsible for the execution of the projects to be evaluated; and

e. Members of the evaluation team.

The coordination of the evaluation work will be carried out by GIZ. The responsibilities of each party that make up the reference group are defined in topic 5.1 of the document Effectiveness Evaluation of Projects Supported by the Amazon Fund – Conceptual Framework.

8. FINAL CONSIDERATIONS

a. Copyright

All information and materials produced from the works object of this contract will have the copyright reverted to GIZ. The total or partial reproduction requires express authorization, recognizing the intellectual property. Due credits will be given for the authorship of maps, photos, films and other records that may be used to provide information about the study, at the discretion of the contracting institution.

For the publication and production of bibliographic materials in the form of articles, academic works, for congresses and scientific events, among others, produced from information subject to contracting by the consultancy and its technical team, prior authorization must be requested for GIZ.

b. Code of conduct

GIZ's internal management aims to promote equal opportunities and perspectives regardless of gender identity, sexual orientation, ethnicity, health status, social origin, religion or age. The diversity of its people, as well as a corporate environment governed by mutual respect and appreciation, represents a sign of success and excellence in its work for GIZ. GIZ prioritizes the appointment of women, LGBTI (Lesbian, Gay, Bisexual, Transsexual and Transvestite, Intersex), black and indigenous people, and people with disabilities for talks, representations, interviews and even job vacancies.

Thus, the selected consultant or company must respect the diversity of gender, sexual orientation, ethnicity, health condition, social class, religion and age and assume attitudes that, with multiplier effect, will help to promote equality between the various actors involved in the consulting of this ToR, adopting the following positions:

:

Personal demeanor

• Listen to and give credit to ideas of co-workers, regardless of their gender, sexual orientation, ethnicity, health condition, social origin, religion or age, maintain attention to vulnerable situations, respect their opportunity to speak and support the ideas of co-workers;

• Talk about issues related to gender, listen and empathize with those who are harmed by inequalities – especially women, read about the topic and encourage this discussion in the spaces that circulate, whether in the company, organization, meetings or talks;

• Question and combat sexual harassment, be an example of respect for women and do not be silent in the face of denunciation or testimony to a harassment;

• Question the idea that there are men's activities and women's activities, avoid attributing certain activities only to women, simply because they are considered “women's activities”;

• Respect the culture, uses and customs of indigenous peoples.

When providing the service

• Be an example of respect for the rights of women, LGBTI, black and indigenous people, people with disabilities and the elderly for co-workers. Avoid jokes that degrade such groups.

• Always try to be informed about policies to promote gender equity in the work environment, seeking to disseminate and respect them. The implementation of gender equity promotion strategies aims at an internal culture transformation and can also impact externally;

Corporate guidelines

• Support initiatives for access and permanence of women, LGBTI, black and indigenous people, and people with disabilities in the field of sustainable development, who encounter numerous obstacles to occupy decision-making and power spaces in our society.

9. ANNEXES

This ToR has two annexes regarding the contracting of two consultants for evaluation:

- Annex 1 – Individual Consultancy – Consultant 1
- Annex 2 – Individual Consultancy – Consultant 2

Rio de Janeiro, February 16, 2022

Christian Lauerhass
Project Director
Cooperation with the Amazon Fund/BNDES
Biodiversity, Forests and Climate Program
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

ANNEX 1
CONSULTANT 1: INDIVIDUAL CONSULTANCY TERMS OF REFERENCE

Call for contracts related to the ToR for Effectiveness Evaluation of the seven projects with the Municipal Theme under the Amazon Fund/BNDES

1. OBJECTIVE

Hiring one (1) senior or full consultant, with knowledge of national and state public policies in the environmental context and sustainable development in the Brazilian Amazon, experience in municipal environmental management and shared with other levels/spheres and experience in monitoring and evaluating policies in projects or programs;

2. ACTIVITIES OF CONSULTANT/A1

The consultant must be part of the evaluation team of the projects in question, with the following activities:

Activity	Description
Report Resign	Contribute, together with the team of evaluators, to the drawing report, consolidating the writing in accordance with the Terms of Reference.
Data collection and analysis	Collect, analyze and interpret data on the results, effects and impacts of projects on topics related to environmental policy and sustainability and, in particular, in the area of Socioeconomic and Environmental Impact Measurement, as well as environmental legislation
Interviews	Conduct field interviews to evaluate the projects and, if possible a SWOT analysis workshops (Strengths, Weaknesses, Opportunities and Threats), together with the team of evaluators.

Activity	Description
Preliminary Report	Prepare the preliminary report with the support of the team of evaluators, consolidating the wording according to the Terms of Reference. This includes the chapters related to the topics under their responsibility.
Consultation round	Support the organization and participate in the consultation round for the presentation of the Preliminary Effectiveness Evaluation Report.
Indigenous Projects Effectiveness Evaluation Report	Contribute to the final version of the report together with the team of evaluators

3. PERIOD OF WORK

The activities must be carried out between 04/04/2022 and 08/22/2022. The period for the field mission is scheduled for the first half of 2022.

4. OUTPUTS OF CONSULTANT/A1

Outputs	Working Days	Deadline	Formats/technical specifications
Output 1 – Municipal Projects Effectiveness Evaluation Design Report.	10	Até 02/05/2022	Word document, Font Arial 12, 1.5 spacing and in digital format.
Output 2 – Preliminary Report of Effectiveness Evaluation of Municipal Projects.	40	Até 17/06/2022	Word document, Font Arial 12, 1.5 spacing and in digital format.
Output 3 – Municipal Projects Effectiveness Evaluation Report	05	Até 04/07/2022	Word Document, Arial Font 12, space 1.5 and in digital format.
TOTAL			**55 days**

5. WORKPLACE AND TRAVEL

The work will take place[98] in Rio de Janeiro, Brasília and cities of the supported projects (Alta Floresta, Carlinda, Cotriguaçu, Jacundá – PA, Marcelândia and Porto dos Gaúchos). For this purpose, the following are foreseen:

	Destination	Forecast date	Travel days	Accommodation days (overnight stays)	Meal allowance
1.	**Alta Floresta (MT)**	From May	2	1	2
2.	**Carlinda (MT)**	From May	2	1	2
3.	**Cotriguaçu (MT)**	From May	2	1	2
4.	**Jacundá (PA)**	From May	2	1	2
5.	**Marcelândia (MT)**	From May	2	1	2
6.	**Porto dos Gaúchos (MT)**	From May	2	1	2
7.	**Brasilia**	From May	4	3	4
8.	**Rio de Janeiro**	From May	2	1	2
	TOTAL		**18**	**10**	**18**

Therefore, up to seven (08) trips will be required, for a total of up to 11 days, as specified above.

98 If it is not possible to carry out field visits due to the pandemic, the work must be done virtually, as detailed in item 3.2.2.

6. CONDITIONS FOR THE PROVISION OF SERVICES

The consultant hired must comply with the following conditions:

• Signature of confidentiality of the data arranged for contractual analysis;

• Acceptance of the commitment agreement not to publish information about the object of analysis;

• Access and reception of prior material made available by the responsible sector;

• Development and monitoring of the work in coordination with GIZ and Amazon Fund, including with regard to the approval or request for rectification of outputs.

7. QUALIFICATION OF THE PROFESSIONAL

• 10 years or more of experience in the monitoring and evaluation of projects and/or public policies;

• Experience of working with the theme of strengthening environmental management in different public spheres (federal, state and municipal).

• Experiences in monitoring and evaluating socio-environmental programs and projects, preferably in the Brazilian Amazon region

• Knowledge about public policies in the area of sustainable development, climate change and the environment; and

• Knowledge about the regional issues of the Amazon that are dealt with within the scope of the projects supported by the Amazon Fund.

8. PAYMENT

Payments will be made after signing the contract, approval of the outputs and presentation of the Bill or Invoice.

Travel costs will be reimbursed against the presentation of proof of expenses, according to GIZ guidelines to be informed in the contract.

The technical review and approval process of the outputs includes the evaluation of the GIZ technical advisor. The final approval of the outputs and authorization for payment are the responsibility of the AV/DV of the project.

ANNEX 2
CONSULTANT/A2: INDIVIDUAL CONSULTANCY TERMS OF REFERENCE

Call for contracts related to the ToR for Effectiveness Evaluation of the seven projects with the Municipal Theme under the Amazon Fund/BNDES

1. OBJECTIVE

Hiring of one (1) senior or full consultant, with knowledge in socio-environmental and environmental management policies, with experience in the preparation and implementation of questionnaires and data analysis for monitoring and evaluation of public policies.

2. ACTIVITIES OF CONSULTANT/A2

The consultant must be part of the evaluation team of the projects in question, with the following activities:

Activity	Description
Design Report	With the support of the team of evaluators, prepare the design report, consolidating the wording according to the Terms of Reference
Data collection and analysis	Collect, analyze and interpret data on the results, effects and impacts of projects on topics related to environmental policy and sustainability and, in particular, in the area of Socioeconomic and Environmental Impact Measurement, as well as environmental legislation.
Entrevistas	Conduct field interviews to evaluate the projects and, if possible a SWOT analysis workshops (Strengths, Weaknesses, Opportunities and Threats), together with the team of evaluators.
Relatório Preliminar	Contribute to the preparation of the report as a whole, including chapters related to the topics under their responsibility.
Consultation round	Support the organization and participate in the consultation round to present the Preliminary Effectiveness Evaluation Report.
Indigenous Projects Effectiveness Evaluation Report	Consolidate the final version of the report together with the team of evaluators.

3. PERIOD OF WORK

The activities must be carried out between 04/04/2022 and 08/22/2022. The period for the field mission is scheduled for the first half of 2022.

4. OUTPUTS OF CONSULTANT/A2

Outputs	Working Days	Deadline	Formats/technical specifications
Output 1 – Municipal Projects Effectiveness Evaluation Design Report.	15	By 05/02/2022	Word document, Font Arial 12, 1.5 spacing and in digital format.
Output 2 – Preliminary Report of Effectiveness Evaluation of Municipal Projects.	35	By 06/17/2022	Word document, Font Arial 12, 1.5 spacing and in digital format.
Output 3 – Municipal Projects Effectiveness Evaluation Report	05	By 07/04/2022	Word document, Font Arial 12, 1.5 spacing and in digital format.
TOTAL	**55 dias**		

5. WORKPLACE AND TRAVEL

The work will take place[99] in Rio de Janeiro, Brasília and cities of the supported projects (Alta Floresta, Carlinda, Cotriguaçu, Jacundá – PA, Marcelândia and Porto dos Gaúchos). For this purpose, the following are foreseen:

	Destin	Forecast date	Travel days	Accommodation (overnight stays)	Meal allowance
1.	Alta Floresta (MT)	From May	2	1	2
2.	Carlinda (MT)	From May	2	1	2
3.	Cotriguaçu (MT)	From May	2	1	2
4.	Jacundá (PA)	From May	2	1	2
5.	Marcelândia (MT)	From May	2	1	2
6.	Porto dos Gaúchos (MT)	From May	4	3	4
7.	Brasília	From May	2	1	2
8.	Rio de Janeiro	From May			
	TOTAL		18	10	18

Therefore, up to seven (07) trips will be required, for a total of up to 11 days, as specified above.

99 If it is not possible to carry out field visits due to the pandemic, the work must be done virtually, as detailed in item 3.2.2.

6. CONDITIONS FOR THE PROVISION OF SERVICES

The consultant hired shall comply with the following conditions:

- Signature of confidentiality of the data arranged for contractual analysis;
- Acceptance of the commitment agreement not to publish information about the object of analysis;
- Access and reception of prior material made available by the responsible sector;
- Development and monitoring of the work in coordination with GIZ and Amazon Fund, including with regard to the approval or request for rectification of outputs.

7. QUALIFICATION OF THE PROFESSIONAL

- 10 years or more of experience working with quantitative data collection;
- Experience in monitoring and evaluating public policies;
- Experience in monitoring and evaluating socio-environmental programs and projects in the Brazilian Amazon region;
- Knowledge about public policies in the area of sustainable development, climate change and the environment; and
- Knowledge about the regional issues of the Amazon that are dealt with within the scope of the projects supported by the Amazon Fund.

8. PAYMENT

Payments will be made after signing the contract, approval of the outputs and presentation of the Bill or Invoice.

Travel costs will be reimbursed against the presentation of proof of expenses, according to GIZ guidelines to be informed in the contract.

The technical review and approval process of the outputs includes the evaluation of the GIZ technical advisor. The final approval of the outputs and authorization for payment are the responsibility of the AV/DV of the project.

June 2023