Effectiveness Evaluation of
Projects focused on the

Amazon Fund / BNDES Sustainable Productive Activities

Amazon's Nectar (Paebiru)

Julho de 2024

EFFECTIVENESS EVALUATION OF PROJECTS FOCUSED ON THE AMAZON FUND/BNDES SUSTAINABLE PRODUCTIVE ACTIVITIES

PRELIMINARY EVALUATION REPORT

Project evaluated

Amazon's Nectar

Evaluators

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July, 2024

Report on the Effectiveness Evaluation of Projects focused on the Amazon Fund/BNDES Sustainable Productive Activities

This report presents the ex post effectiveness evaluation results of the Amazon Fund/BNDES Sustainable Productive Activities. The referred to evaluation was performed by a team of women, who are independent consultants, under the coordination of the German Cooperation for Sustainable Development through *Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH* (GIZ), as part of the technical cooperation with BNDES on the Amazon Fund. All opinions expressed herein are the sole responsibility of the authors, and do not necessarily reflect the position of GIZ and BNDES.

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BNDES
MINISTÉRIO DO DESENVOLVIMENTO, INDÚSTRIA, COMÉRCIO E SERVIÇOS
MINISTÉRIO DO MEIO AMBIENTE E MUDANÇA DO CLIMA
GOVERNO FEDERAL BRASIL UNIÃO E RECONSTRUÇÃO

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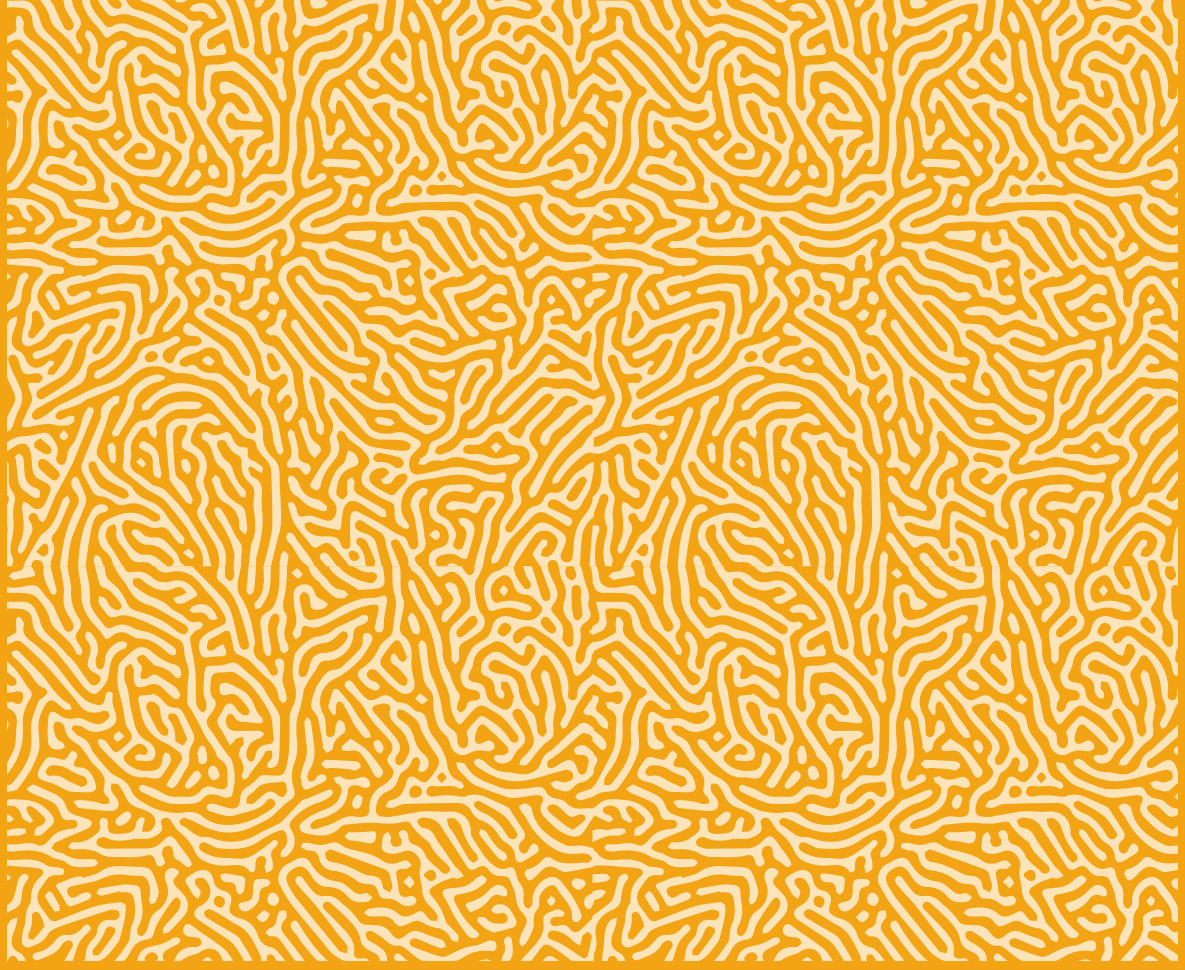
Acronyms

ADAI	Interstate Agricultural Development Association
ANATER	National Agency for Technical Assistance and Rural Extension
APP	Permanent Preservation Area
APS	Sustainable Productive Activities
ATER	Technical Assistance and Rural Extension
BNDES	Brazilian National Bank for Economic and Social Development
FA	Amazon Fund
GIZ	*Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH*
INCRA	Brazilian National Institute of Colonization and Agrarian Reform
IOV	*Ouro Verde* Institute
IPAM	Amazon Environmental Research Institute
MAB	Movement of People Affected by Dams
MMA	Brazilian Ministry of Environment and Climate Change
OECD	Organisation for Economic Co-operation and Development
PA	Settlement Project
PAA	Food Acquisition Program
PAB	*Alimenta Brasil* Program
PAS	Sustainable Settlements Project
PNAE	Brazilian National School Feeding Program
PPCDAM	Action Plan for the Prevention and Control of Deforestation in the Legal Amazon
PSA	Payment for Environmental Services
QL	Logical Framework
RAE	Effectiveness Evaluation Report
REDD+	Reducing Emissions from Deforestation and Forest Degradation (+ conservation, sustainable management of forests, and enhancement of forest carbon stocks in developing countries)
RSPA	Amazon Portal Seeds Network
SAFS	Agroforestry Systems
SISCOS	Solidarity Marketing System
SSP	Silvopastoral System
TDR	Terms of Reference
UFMT	Federal University of Mato Grosso
UNEMAT	State University of Mato Grosso
UNFCCC	United Nations Framework Convention on Climate Change



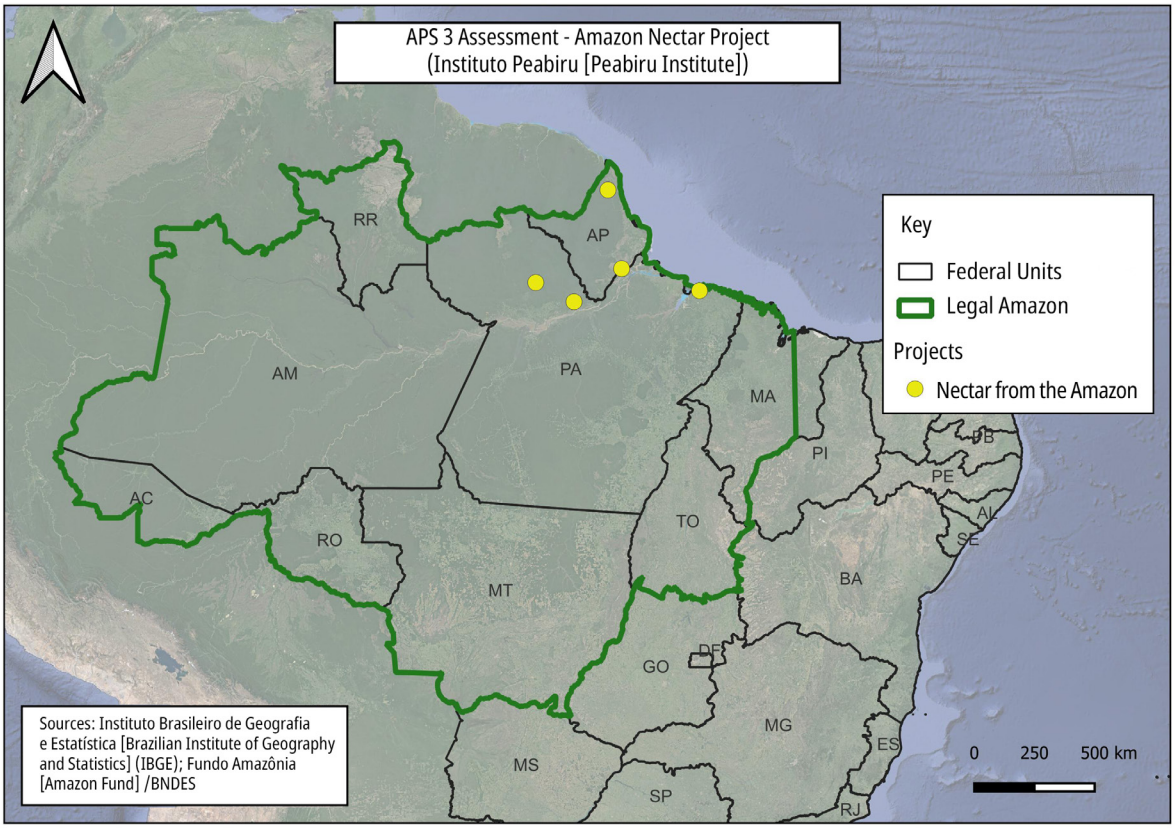
Amazon's Nectar Project

Project File			
Project Title:	Amazon's Nectar	**Responsible organization:**	Peabiru Institute
Project Period:	27/Aug/2014 - 30/Jun/2022	**Territorial Coverage:**	Amapá and Pará
Beneficiaries:	30 rural communities (quilombolas, Indigenous Peoples, riverine, and extractivists), comprising a target audience of 373 individuals		
Goals:	Strengthen the honey from native bees production chain in order to provide a sustainable economic alternative to deforestation		
Deadline:	42 months		
Total value of the Project:	BRL 2,072,901.00	**Amount of support from the Amazon Fund:**	BRL 2,030,000.00
Hiring date:	27.Aug.2014	**Date of completion:**	30.Jun.2022

Source: Amazon Fund website, accessed on 28/Feb/24, available at https://www.fundoamazonia.gov.br/pt/projeto/Nectar-da-Amazonia/

1. Project Summary

The *Amazon's Nectar* project sought to establish a structure for the honey production chain of *Melipona* (stingless) bees in four municipalities in the states of Pará and Amapá. To this end, it has worked to strengthen and expand the production and processing infrastructure, enhance the value of the final product and structure the marketing of honey from native bees produced by traditional communities: riverine communities, extractivists and small farmers in the municipalities of Curuçá, Almeirim, and Monte Alegre, in the state of Pará; quilombolas, in the municipality of Macapá, and Indigenous Peoples in the municipality of Oiapoque, in the state of Amapá.



2. Intervention Logic

The *Amazon's Nectar* project falls under the "Sustainable Production" Component (1) of the Amazon Fund's Logical Framework and, agreed with the funder, presented the Logical Framework in Figure I.

Figure 1 Logical framework for the Amazon's Nectar project

Source: Amazon Fund.

3. Specific Methodology

The evaluation sought to analyze if the results achieved during the implementation period of the project continued in force, as well as the outcome of these results and their impacts, years after the project implementation.

In the preparation phase of the analysis, data was collected from secondary sources including project documents shared by the BNDES, public data and institutional materials made available by the institution responsible.

For active collection of primary data, a field mission was carried out in April 2024, in the state of Pará, in the municipalities of Acará, around Belém, and Curuçá. During the mission, members of the project's coordination and technical team were interviewed and families of producers were visited on their properties. A total of eight families were visited, four in each municipality.

4. Project Implementation Context

Since 2006, the Peabiru Institute has been developing beekeeping projects for stingless bees (meliponiculture) with traditional peoples and communities in Pará and Amapá, through the Amazon Bees Program, which has been called different names from its inception to the present day. The aim of the Program is to present a sustainable family income option for the Amazon region, based on Brazilian biodiversity and with gender impacts since the activity of meliponiculture is traditionally carried out by women.

The activity is considered new in the country, but has seen an increase in demand over the last 20 years[1], due to the diversity of flavors and medicinal effects of honey from *Melipona* bees. The market value of honey from stingless bees is also higher than that of Africanized bees, since the production per colony is lower (average of 4 kg/hive/year compared to 30 kg/hive/year) and therefore rarer. As a result, the average price of a liter of honey from Melipona bees is usually higher than that of Africanized bees[2], with some species costing as much as BRL 1,460.00 a liter.

In the Amazon Bees Program, the initial focus was on "training related

1 CNA. Confederação da Agricultura e Pecuária do Brasil [Confederation of Agriculture and Livestock of Brazil]. Senar debates the prospects for meliponiculture in Brazil. Senar [online portal], July 19, 2023. Available at https://www.cnabrasil.org.br/noticias/senar-debate-perspectivas-da-meliponicultura-no-brasil. Accessed on: June 2024.

2 Lima, J. R. F.; Ribeiro, M. F. Custos e viabilidade econômica da meliponicultora comercial. In: Drumond, P. M. et. al. (Eds.). Meliponiculture: the producer asks, Embrapa answers. Brasília, DF: Embrapa, 2024. Available at https://ainfo.cnptia.embrapa.br/digital/bitstream/doc/1164026/1/Custos-e-viabilidade-economica-Meliponicultura-2024.pdf . Accessed on: June 2024.

to local development initiatives with a focus on validating scientific research and contributing to the strengthening of social organization in these territories". As of the *Amazon's Nectar* project, however, the Peabiru Institute is working to strengthen the meliponiculture value chain itself, with the aim of generating income, combating fires and deforestation, promoting biodiversity conservation and valuing environmental services such as pollination.

The *Amazon's Nectar* project focuses on the two pioneering centers of Peabiru's work: **(I)** the agroextractivism communities of Curuçá, in Salgado Paraense, a coastal region with mangroves, where the families involved did not form an organized group of producers; and **(II)** the quilombola communities around Macapá, in a transitional region between the Cerrado and coastal vegetation. Here, quilombola communities already existed as a structured social group, due to their history of fighting for territorial rights. On the other hand, in Salgado Paraense, families began to develop a process of creating a territorial collectivity based on the project

Although beekeeping was already present in both territories before the project, it was the work of the Peabiru Institute that introduced the so-called rational method of managing stingless bees, which, as will be seen below, enabled the expansion and strengthening of the meliponiculture chain in the regions.

5. Evaluation of the Results

This section summarizes the results achieved based on the framework of indicators systematized by the project in the Monitoring Plan. As mentioned in the methodology, the evaluation comments highlight the permanence and outcome of the results some years after implementation. The discussion of the results follows the sequence and structure of the indicator blocks defined in the project's Monitoring Plan.

It should be noted that in the *Amazon's Nectar* project specifically, the indicators are reported globally for the two states. The comments are based on interviews carried out during the field mission in Pará and with the project's general coordinator.

5.1 Results Achieved

DIRECT EFFECT 1. Honey from native bees production chain with increased scale and added value;

DIRECT EFFECT 2. Managerial and technical capacities of traditional communities expanded to operate in the honey from native bees production chain;

Indicator	Goal	Indicators at the end of the project	Change
Annual revenue from the production of honey from native bees resulting from the supported project	BRL 400,000.00	BRL 7,290.00	1,8%
Area of forest directly managed as a result of the supported project	17,239 ha	Not measured	-
No. of community organizations strengthened	6	1	17%
No. of individuals directly benefiting from the activities supported by the project	310	373	120%
No. of women directly benefiting from the activities supported by the project	40	52	130%
No. of Indigenous Peoples directly benefiting from the activities supported by the project	40	45[3]	112%
Number of women holding coordinating positions in the Peabiru Institute and total number of individuals holding coordinating positions in that institution	4	3	75%

Productive Base

The *Amazon's Nectar* project has made great efforts to promote the beekeeping of stingless bees (meliponiculture) in the states of Pará and Amapá, managing, during the implementation period, to **expand the number and size of meliponaries in seven municipalities** distributed between the two states, totaling just over 4,000 hives distributed among 102 producers.

The **women have taken part in fewer training sessions, but they are the ones who have remained most responsible** for managing the hives to date. According to interviews conducted during the field mission, this was because many men preferred to work in value chains with faster financial returns and greater volume. For the women, the main attractions of meliponiculture were the ease of keeping the meliponaries close to home and the low demand for workforce, since maintaining the hives only requires between two and three hours of work a week.

3 All from the Karipuna ethnic group, in Oiapoque-AP.

Income and Marketing

About five years after the end of the project, it was found that, although

Photo: Cecilia Simões

Beneficiary of the project in her meliponary in the municipality of Curuçá.

the Peabiru Institute no longer monitors the exact number, many producers continue with their active meliponaries, **producing an average of 25 kg to 30 kg of honey a year**. This honey is sold directly to the Peabiru Institute itself, which, in partnership with the Fitobel company, processes and sells the final product. The amount currently paid to producers is BRL 45.00/kg, indicating an **average additional income of BRL 1,125.00 to BRL 1,350.00 per year for each family**. This amount is considered a supplement that diversifies family income sources, contributing to their **financial security**.

The Peabiru Institute had difficulties implementing the **processes of social organization** related to the production of meliponiculture, as well as **management of forested areas**. These actions ended up being little worked on and there are no significant results that can be seen today.

Finally, the Peabiru Institute currently has three women in coordinating positions on its team: **(i)** an administration coordinator, **(ii)** a program manager, and **(iii)** a project manager.

DIRECT EFFECT 1. Honey from native bees production chain with increased scale and added value

Indicator	Goal	Indicators at the end of the project	Change
Product 1.1: Consolidation of honey from native bees production and expansion of the number of hives			
No. of hives in production	10,000	4,075	41%
Product 1.2: Implementation of agroforestry systems in areas associated with bee breeding sites			
Area corresponding to agroforestry systems implemented (hectares)	4	4	100%
Product 1.3: Implementation of a honey processing unit and supervision of the operation for twelve months			
Volume de mel de abelhas nativas beneficiado no âmbito do projeto (kg)	20	270	1,350%
Product 1.4: Study on the market for honey from native bees and its by-products and preparation of business plans for the production chain appropriate to the realities of the project.			
Technical Report on the market for honey and other native bee products prepared	1	1	100%
Matrix Business Plan for the honey from native bees production chain drawn up	1	1	100%
Business Plans tailored to the reality of each sub-project drawn up	4	4	100%
Evaluation reports on the implementation of the local Business Plans prepared	1	-	1

New Sustainable Value Chain

It is estimated that around a third of native stingless bees are currently at risk in Brazil, which can affect pollination services in natural and agricultural ecosystems, compromising the reproductive capacity of plants and wild animals. In the Amazon, it is estimated that *Melipona* bees are responsible for 35% to 90% of the pollination of tree species. Thus, by maintaining colonies of native bees, meliponiculture presents itself as a way not only of generating income, but also of protecting the species from human actions, seeking to locate them in the region of their original occurrence, being an efficient way of conserving the species.

In the target territories, however, honey production before the project's intervention was restricted to *Apis* bees (stinging bees). The *Amazon's Nectar* project was responsible for **introducing** the honey **value chain** for Melipo-

na bees in the region, which are easier to manage and produce honey with a higher added value than Apis bees, precisely because it is produced on a smaller scale and has recognized medicinal qualities.

> *"My daughter loves to come and play here among the bee boxes." — Producer in Acará.*

This has allowed the *dissemination and consolidation of an income-generating production technology that requires little investment and workforce* while promoting forest and bee conservation. Thus, although the initial target of the number of hives in production was not reached, the final result produced was significant, as it was enough to form the productive base of this sustainable value chain in the region[4] .

> *"The productive base that exists in these places is made up of few activities that motivate and engage. So the introduction of meliponiculture has broadened this production base and increased the families' financial autonomy." — Project Coordination.*

During the field mission to the state of Pará, it emerged that, with the support of the project, the meliponiculture chain in the regions visited remained active, with families maintaining and multiplying their hives and selling their production to Peabiru in partnership with Fitobel.

A relevant development of *Amazon's Nectar* was the **outcome of new projects** by the Peabiru Institute, which allowed the spread of meliponiculture to a new municipality in the state of Pará: Acará, on the outskirts of Belém. Peabiru has been developing the Friends of Bees project there since 2020, offering participating families technical assistance from specialized professionals and the structure to set up meliponaries on their land. In Acará, the institute also has a meliponary demonstration unit, where boxes of bees are multiplied for distribution by the project and training and capacity-building activities are carried out. Thus, based on the lessons learned from the project, Peabiru's objective at the moment is to develop a meliponiculture center in the municipality of Acará, consolidating the honey chain in the region.

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4 In addition, it should be noted that the Peabiru Institute identified, at the end of the project, an overestimation of the target number of hives due to the lack of experience with the subject at the time the project was formulated.

> *"We want beekeeping to be like chicken farming. That all families adopt this practice and have boxes at the bottom of their backyards, making up their income just like cassava, chicken, açaí etc."*
> *— Project coordination.*

Photo: Cecilia Simões

Meliponary and Demonstration Unit of the Peabiru Institute, in the municipality of Acará.

It should also be noted that Acará was one of the municipalities visited during the field mission. Through the interviews with producers, it was found that meliponiculture has been adopted not only as a source of income, but mainly as a vehicle for **pollinating forest products**, such as açaí and cocoa. In other words, its relevance has grown in an integrated way with other value chains that also conserve the forest and its biodiversity.

Marketing

To strengthen the meliponiculture chain, the project envisaged not only establishing production and expanding hives, but also structuring the honey processing and marketing links. Initially, a processing plant was planned, but after the commercial studies and production capacity evaluation carried out by the project, it was decided that a processing industry would not be prof-

itable at this stage in the development of the meliponiculture chain in the regions where it operates. The decision was then made to enter into a partnership with the Fitobel industry, which already worked with honey from *Apis* bees. The project supported the industry in obtaining the Federal Inspection Seal (SIF), the first in the country for meliponiculture products, which made it possible to **sell them throughout the country**. Through this partnership, the **Peabiru Institute buys the entire the production** of the project's beneficiaries to date.

The *Amazon's Nectar* has also brought **relevant outcomes to the Peabiru Institute's strategy for marketing socio-biodiversity products**, with an impact on other forest value chains. After the experience of formalizing the products by obtaining the management authorization for the meliponaries and SIF, Peabiru saw the potential of these actions to increase scale and access more formal markets, not only for honey, but also for products such as flours, handmade chocolates and jellies. As part of the project, a specialized website and the "Peabiru Produtos da Floresta" brand (Peabiru Produtos da Floresta) were created in 2017 and are still active today. In 2018, a Peabiru Institute store was also opened, with the support of the Pão de Açúcar Institute, in Belém; However, the covid-19 pandemic drastically affected the brand's sales and caused the store to close, which was reopened in 2022. Since then, the brand's products have been sold in the store and in four other locations in the city of Belém.

Although formal markets are the current focus of Peabiru's work, the Institute believes that the best financial returns for honey production can be achieved through **short-cycle sales**, informally and directly between producer and consumer. This is the case because it has not been possible to establish a premium value for Amazonian honey from *Melipona* bees, as expected. According to the project coordination, there are several hypotheses that explain this difficulty. The most noticeable is that the average Brazilian does not know about and does not value, in terms of price premium, products from the Amazon or linked to socio-environmental factors. Also, the pandemic interrupted the sales strategy in emporiums in São Paulo just as the product was starting to gain traction in 2020. This forced a redirection towards online sales, at a time when the institution did not have the resources to invest in this strategy and there were no sources of funding available.

Thus, the strategy to support the marketing of honey is currently shifting from the purchase and processing by Fitobel to sales by the producers

themselves in their communities, at fairs and on the streets of the city of Belém, where it is possible to earn around three times more than the amount paid by Fitobel (BRL 120.00/kg against. BRL 45.00/kg).

The **Agroforestry Systems** (SAFs) planned at the start of the project (four hectares in each production pole) have not been implemented. The main causes were the lack of expertise on the subject and the lack of integration with meliponiculture, which led to flaws in the sizing of the work and basic flaws such as the absence of irrigation.

DIRECT EFFECT 2. Managerial and technical capacities of traditional communities expanded to operate in the honey from native bees production chain.

Indicator	Goal	Indicators at the end of the project	Change
Product 2.1: Technical support and training for the target audience in native beekeeping, agroecological practices, business management, and production processes.			
No. of individuals trained in native beekeeping, agro-ecological practices, business management, and production processes specified by gender	310	373	120%
No. of training events	80	37	46%
Product 2.2: Development of a participatory socio-environmental monitoring system			
Phenological calendars developed	4	4	100%

Training and Technical Assistance

The training courses were tools for engaging and selecting the producers in the project and, as such, crucial to the results achieved by the project. Family farmers were invited to take part in the training courses and, depending on their attendance and commitment, received boxes with hives at the end. This method of engagement and dissemination of meliponiculture has been consolidated at the Peabiru Institute, which continues to act in this way in its current projects. Another direct result of the investment in training was the first Management Authorizations for *Melipona* bees in Brazil, which were obtained by the project's producers.

In addition, although not foreseen by the project, the supplementary

training offered by other institutions proved to be relevant in increasing the impact. Reports were collected from producers who had taken courses offered by the Brazilian National Rural Learning Service (SENAR) on rural entrepreneurship, which provided guidance, for example, on pricing products, offering differentiated products, better financial management, etc. This has led to better management of production and marketing, in addition to the support offered by the project.

> *With SENAR I've learned that I can sell the boxes with hives for much more than I'm selling them for, I can make more money from selling the boxes than I can from selling the honey".*
> *— Project beneficiary*

The **provision of technical assistance** also proved crucial to the effectiveness of the efforts made. The producers reported the need for frequent assistance when setting up the meliponaries to have questions answered and support received when extracting the honey. It is important to note that Peabiru has developed a mechanical tool for extracting honey that has drastically reduced working time compared to manual extraction with a syringe, which was done at the beginning of the project.

> *At first it took us a whole day to extract all the honey from the hives. Today, with the mechanical extractor, it takes about an hour."*

The tool, however, is unique and remains in Peabiru's possession. So the producers wait for the technical assistant to visit them to extract the honey, which happens once a year.

Also within the scope of technical assistance, a number of products have been developed to support training and technical support, as well as to promote meliponiculture throughout the Amazon. The first is a chapter called "MELIPONICULTURE: Sustainable business opportunity in the Eastern Amazon" from the e-book *Ciências ambientais: política, sociedade e economia da Amazônia*[5] from the State University of Pará (UEPA), published in 2020. The research was carried out by Peabiru in partnership with Embrapa Amazônia Oriental and identified results and advantages of meliponiculture, both in

5 Pontes, A. N.; Rosário, A. S. (Orgs.). *Ciências ambientais: política, sociedade e economia daAmazônia*. Belém: EDUEPA, 2020. Available at https://ainfo.cnptia.embrapa.br/digital/bitstream/item/225814/1/amb-pol-soc-ec-1cap3.pdf . Accessed on: June 2024.

terms of economic and social impacts and environmental impacts on ecosystems, especially in the Amazon biome.

In addition, the phenological calendar research became two products included in the document "*Dossiê Cadeia de Valor das Abelhas sem Ferrão da Amazônia* [Amazon Stingless Bees Value Chain Dossier][6]", also published in 2020. These are: Annex I - Species of stingless bees (*Meliponini*) that occur in the state of Pará; and Annex II - The preferred plants of stingless bees in the state of Pará.

Photo: Cecilia Simões

The Peabiru Institute technical advisor carrying out manual honey extraction with a project beneficiary.

6 Oliveira, H. J. S.; Meirelles Filho, J. C. S.; Meirelles, J. P. S. (Eds.) *Dossiê Cadeia de Valor das Abelhas sem Ferrão da Amazônia* Belém, PA: Instituto Peabiru, 2020. Available at https://www.fundoamazonia.gov.br/export/sites/default/pt/.galleries/documentos/acervo-projetos-cartilhas-outros/Peabiru-Dossie-Abelhas-Amazonia.pdf. Accessed on: June 2024.

6. Analysis of the OECD Evaluation Criteria and REDD+ and Cross-Cutting Safeguards

6.1. Analysis of the OECD Evaluation Criteria

Evidence	Evaluation
RELEVANCE CRITERION	
· The project formed the **productive base of a new meliponiculture value chain** which, despite using endogenous Amazonian bees, having high added value and being easy to maintain, allowing the inclusion of young people and women, is still incipient in the biome and in the target territories. · The production represents a **diversification in income** for the producing families and has been expanding to other territories since the end of the project, due to the attractiveness of the cost-benefit ratio between workforce and financial results.	**Relevant**
EFFECTIVENESS CRITERION	
· The project faced **hardships to act on other links in the chain**, which remain in need of more investment towards the autonomy of families. The communities' managerial and technical capacities to operate in the *Melipona* bee honey production chain has also been expanded, although there is still a certain **dependence on technical assistance**.	**Medium Effective**
EFFICIENCY CRITERION	
· The expansion of the meliponiculture production base, which can be considered the first step in strengthening any value chain, is based on the multiplication of bee hives and the training of producers. The project's resources were therefore well distributed between the construction of the bee boxes to form the meliponaries, the training processes and technical assistance. The cost of the boxes themselves already represents around half of the project's resources, but they were crucial to achieving the results we found.	**Efficient**
IMPACT CRITERION	
· The main impacts of the project focused on strengthening the **production of honey from native bees** and how this experience strengthened Peabiru's institutional strategy for the meliponiculture chain. · Meliponiculture was incipient or practically absent in the target territories, and with the work of the project its **productive base was permanently expanded**, remaining present to this day. · The project has contributed to a diversification in the productive base of families, increasing their **financial security**. · The project was Peabiru's **first experience** with strengthening a production chain, and its lessons have been **guiding the construction of the institutional strategy**. Since the end of the project, Peabiru has been raising new resources and implementing new actions in another territory, working to further expand the production base and strengthen other links in the value chain of stingless bees in the Amazon.	**Qualitative impacts**
SUSTAINABILITY CRITERION	
· Many of the families who benefited from the distribution of bee boxes after the training **continue to produce honey** to this day, even after the effects of the covid-19 pandemic. · Some producers are more **autonomous** and able to continue producing and marketing independently. Others are **more dependent** on technical assistance, and tend to stop producing if they don't receive at least sporadic technical visits. This indicates the need to generate more autonomy in future technical assistance efforts. · It is necessary to build a **marketing strategy** that is less dependent on purchases made by Peabiru itself, more diversified and autonomous.	**Average sustainability**

6.2 Analysis of the Cancun Safeguards

Safeguard	Attendance	Notes
Actions complementing or consistent with the objectives of national forest programs and other relevant international conventions and agreements	**Yes**	The Amazon Fund projects related to the Sustainable Production Components are directly aligned with Axis 1 of the 2023 to 2027 phase of the PPCDAm - Sustainable Productive Activities; especially in its 'Objective 1: Stimulating Sustainable Productive Activities'. This project contributes more specifically to the expected result '1.1 Bioeconomy, socio-biodiversity, agroecology and agroecological transition expanded and strengthened in the Amazon', as it operated in a sociobioeconomy value chain, which promotes the conservation of bees and forest species.
Transparent and effective national forest governance structures, with a view to national sovereignty and national legislation	**N/A**	There were no specific contributions from the project in this respect.
Respect for the knowledge and rights of Indigenous Peoples and members of local communities, taking into account relevant international obligations, national circumstances and laws and noting that the UN General Assembly adopted the United Nations Declaration on the Rights of Indigenous Peoples		The project worked with endogenous species from the territories, which many families had already been working with before the project, but in an informal and unstructured way: a tree would be cut down to move the hive closer to the house, which, more often than not, sacrificed the hive. The project introduced the rational method of raising stingless bees, which uses a wooden box where the hive is installed, and whose model, divided into floors, allows for the periodic multiplication of colonies[7].
Full and effective participation of interested parties, in particular Indigenous Peoples and local communities, in the actions referred to in paragraphs 70 and 72 of Decision 1/CP 16	**In part**	No evidence of formal compliance with the decisions was identified. The field work was carried out on an individual basis, requiring the agreement of the producers to carry out the activities in their areas. Community associations were not involved in the planning and monitoring of the project's actions.
Actions consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70 of Decision 1/CP 1611 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 improve other social and environmental benefits	**Yes**	The project encouraged the production of honey from native stingless bees, which promoted the conservation of the biodiversity of the bees themselves, but also of the forests that they use as pasture, serving as pollinators. Meliponaries are set up in forested areas and do not require deforestation. On the contrary, meliponiculture encourages forest conservation in order to increase honey production.
Actions to address the risks of reversals in REDD+ results	**N/A**	Not applicable.
Actions to reduce the shift of carbon footprint to other areas	**N/A**	Not applicable.

7 Relatório de Avaliação de Resultados do Projeto Néctar da Amazônia. Instituto Peabiru. Amazon Fund, October 2020.

6.3 Analysis of Cross-Cutting Criteria

Criterion	Attendance	Notes
POVERTY REDUCTION		
· To what extent has the project contributed effectively to economic alternatives that value the standing forest and the sustainable use of natural resources? · To what extent has the project positively influenced the reduction of poverty, social inclusion and improvement of the living conditions of beneficiaries (in particular: traditional communities, settlements and family farmers) who reside in the area of the project activities? · Has the project succeeded in promoting and increasing production in value chains of timber and non-timber forest products originating from sustainable management?	**Yes**	The project has formed the productive base of a value chain that offers a supplement to annual income while requiring very little investment and workforce, freeing producers to carry out other activities. In addition, the introduction of meliponiculture represented a necessary diversification in the source of income for many beneficiary families, increasing their financial security. The income generated from meliponiculture production varies: it can be generated from the sale of honey, but also from other products such as propolis and the hives themselves to multiply production. Thus, although the income from the sale of honey is relatively low, as it occurs once a year, the project has generated the capacity for further increases in the income of the families involved, depending on their level of interest and dedication.
GENDER EQUALITY		
· Has the project succeeded in integrating gender issues into its strategies and interventions or addressed the issue in an independent way? How? · Was there separation by gender in data collection for project planning and monitoring? · How did the project contribute to gender equality?	**Incipiently**	Meliponiculture, because it works with stingless bees that can be cultivated close to family homes, is traditionally a job carried out by women. Thus, despite the fact that most of the individuals who benefited from the project were men, it was the women who remained in charge of production, and/or it was at their instigation that the families started working with bees. Not necessarily because of the project's encouragement, but because of the natural organization of the families' work. The project monitored the number of women taking part in the activities.

7. General Evaluation

Positive Aspects

• The honey value chain from Melipona bees was considered to be incipient in the territories targeted by the *Amazon's Nectar* project, with production being carried out by a few isolated individuals, lack of processing and sanitary regularization, low commercialization etc. With the project financed by the Amazon Fund, it was possible to consolidate the process of multiplying parent hives, which generated a herd of around 4,000 hives that were distributed among the beneficiary families in the target territories.

• The herd formed by the project not only allowed for an increase in honey production, but also became the basis for new multiplication processes and the installation of meliponaries, making the installation of new meliponiculture projects by the Peabiru Institute more agile. In its pioneering spirit, the *Amazon's Nectar* Project therefore provided the initial conditions for gaining scale in the production of a value chain based on forest conservation.

• Along with the exponential growth in the production link of the honey chain, the project also generated extensive institutional growth at the Peabiru Institute. Through the lessons learned during its implementation, the institute refined its strategy for working with the meliponiculture chain, identifying as a major goal the inclusion of beekeeping in the composition of the diversified production systems that characterize family farming.

• In addition, Peabiru has trained its technical workforce, developed new technology for extracting honey from the hives, and developed new partnerships with national and international funders.

Challenges

• The *Amazon's Nectar* project proposal drawn up by Peabiru was based on several years of experience working with the meliponiculture value chain. Until the start of the project, however, this experience consisted of capacity building for local development with a focus on validating

scientific research and contributing to the strengthening of social organizations. The *Amazon's Nectar* was the Institute's first initiative focused on strengthening the chain and mass multiplication of hives and meliponaries. This led to overestimated initial targets that had to be revised over the course of the project, such as the target for the number of active hives and the number of training events held. However, as explored in the analyses presented, this did not interfere with the sustainability of the results achieved, with honey production being maintained to this day in the benefited territories.

- There is a need for planning and major fundraising efforts if the provision of technical assistance is to be maintained on an ongoing basis. The reality of the logistical costs of the technical team to serve the different hubs, which were quite distant from each other, was underestimated, leading to difficulties in implementation. This difficulty became even worse at the end of the project, when the Institute was unable to access new funding and was unable to continue serving the beneficiary families on an ongoing basis.

- Without substantial resources at the end of the project, Peabiru was unable to continue offering rural technical assistance to the families who were unable, at the time of the project, to fully master the technical aspects of bee management and, especially, honey collection/marketing. As of 2021, the Institute was again able to raise resources to support the maintenance of a technical assistance team that has been accompanying some of the project's beneficiary families to this day.

- As this was the Institute's first project aimed at strengthening the honey chain, the team also had difficulty consolidating the marketing strategy. The solution found has been efficient so far: all the producers sell their entire production to Peabiru, which, in partnership with the company Fitobel, processes and markets the honey. This solution, however, is not sustainable in the long term and needs to be gradually replaced. The Institute has been designing a strategy for this transition, based on individual and direct marketing by producers at fairs and on the city streets. Some families have already adopted this independence. But the strategy will begin to be implemented from 2025.

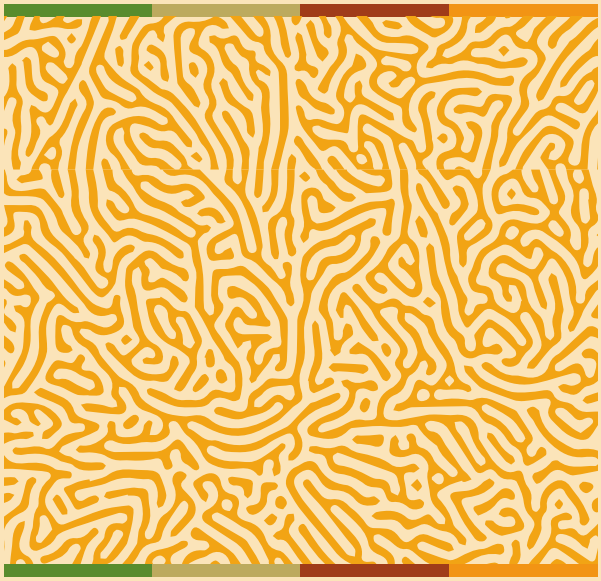
8. Conclusion and Lessons Learned

• The *Amazon's Nectar* project represented a milestone for the meliponiculture value chain in the target localities. The mass multiplication of the number of hives and the training of families in the management of meliponaries allowed for a large expansion in honey production and the consolidation of this activity as a source of complementary and sustainable income, which it remains to this day.

• Production takes place in areas close to the families' homes, usually under the canopy of trees in the yard. Producers recognize the value of standing forest as a pasture for bees, but it turned out that even so, some families did not choose to avoid deforestation (no matter how small) in order to produce more honey. This indicates the urgent need for technical assistance, not only to promote meliponiculture itself, but also to educate about the value of the standing forest and to guide the use of the land on the properties as a whole.

• Technical assistance to expand production was a crucial element in the project, and is still needed by some families.

• During the implementation of the project, Peabiru identified that it is crucial for technical assistance to foster the autonomy of its beneficiaries, encouraging independent management of the area and the meliponaries, the search for means of commercialization, etc.



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