

Social Relations in the Açaí Supply Chain: Perspectives of Local Stakeholders in the Municipality of Concórdia do Pará

Jamison Pinheiro Ribeiro

Universidade Federal de Santa Maria – Santa Maria – Rio Grande do Sul – Brasil
ORCID: <https://orcid.org/0000-0001-9952-8144>

Andrea Cristina Dorr

Universidade Federal de Santa Maria – Santa Maria – Rio Grande do Sul – Brasil
ORCID: <https://orcid.org/0000-0003-0219-7380>

Carine Dalla Valle

Universidade Federal de Santa Maria – Santa Maria – Rio Grande do Sul – Brasil
ORCID: <https://orcid.org/0000-0001-5516-289X>

Abstract

The article examines the perceptions of agents in the açaí production chain in the municipality of Concórdia do Pará, focusing on the social and economic aspects that permeate this process. It highlights the relevance of açaí for regional development, showing how this chain influences the local economy and contributes to the well-being of communities. The main objective is to analyze the social function performed by the different agents, with an emphasis on social relations and dynamics that favor social inclusion and the reduction of inequalities. The research adopts a qualitative approach through semi-structured interviews with the main agents in the chain, analyzed based on content analysis techniques, with the aid of MAXQDA® software. The categories of analysis identified were: production, municipality, self-consumption, technical assistance, family, and knowledge, which reveal a social perception of the açaí chain as a vector for regional development. The results indicate that production and the municipal context are the most prominent elements, while technical assistance and family support are consolidated as pillars for the social and economic dynamics of the activity. It is concluded that the açaí production chain, in addition to its economic value, plays a strategic role in promoting social development, reaffirming the need for public policies aimed at valuing family farming and work in the countryside.

Keywords: Açaí Production Chain; Regional Development; Social Aspects; Economic Agents; Social Sustainability.

Relaciones sociales en la cadena productiva del açaí: perspectivas de los agentes locales en el municipio de Concórdia do Pará

Resumen

El artículo examina las percepciones de los agentes de la cadena productiva del açaí en el municipio de Concórdia do Pará, centrándose en los aspectos sociales y económicos que impregnan este proceso. Se destaca la relevancia del açaí para el desarrollo regional, poniendo de manifiesto cómo esta cadena influye en la economía local y contribuye al bienestar de las comunidades. El objetivo principal es analizar la función social que desempeñan los diferentes agentes, haciendo hincapié en las relaciones sociales y las dinámicas que favorecen la inclusión social y la reducción de las desigualdades. La investigación adopta un enfoque cualitativo, mediante entrevistas semiestructuradas con los principales agentes de la cadena, analizadas con base en la técnica de análisis de contenido, con la ayuda del software MAXQDA®. Las categorías de análisis identificadas fueron: producción, municipio, autoconsumo, asistencia técnica, familia y conocimiento, que revelan una percepción social de la cadena del açaí como vector de desarrollo regional. Los resultados apuntan a que la producción y el contexto municipal son los elementos más destacados, mientras que la asistencia técnica y el apoyo familiar se consolidan como pilares de la dinámica social y económica de la actividad. Se concluye que la cadena productiva del açaí, además de su valor económico, desempeña un papel estratégico en la promoción del desarrollo social, reafirmando la necesidad de políticas públicas orientadas a la valorización de la agricultura familiar y el trabajo en el campo.

Palabras clave: Cadena productiva del açaí; desarrollo regional; aspectos sociales; agentes económicos; sostenibilidad social.

Relações sociais na cadeia produtiva do açaí: Perspectivas dos agentes locais no município de Concórdia do Pará

Resumo

O artigo examina as percepções dos agentes da cadeia produtiva do açaí no município de Concórdia do Pará, com foco nos aspectos sociais e econômicos que permeiam esse processo. Destaca-se a relevância do açaí para o desenvolvimento regional, evidenciando como essa cadeia influencia a economia local e contribui para o bem-estar das comunidades. O objetivo principal é analisar a função social exercida pelos diferentes agentes, com ênfase nas relações sociais e nas dinâmicas que favorecem a inclusão social e a redução das desigualdades. A pesquisa adota uma abordagem qualitativa, por meio de entrevistas semiestructuradas com os principais agentes da cadeia, analisadas com base na técnica de análise de conteúdo, com o auxílio do software MAXQDA®. As categorias de análise identificadas foram: produção, município, autoconsumo, assistência técnica, família e saber, que revelam uma percepção social da cadeia do açaí como vetor de desenvolvimento regional. Os resultados apontam que a produção e o contexto municipal são os elementos mais destacados, enquanto a assistência técnica e o apoio familiar se consolidam como pilares para a dinâmica social e econômica da atividade. Conclui-se que a cadeia produtiva do açaí, além de seu valor econômico, desempenha papel estratégico na promoção do desenvolvimento social, reafirmando a necessidade de políticas públicas voltadas à valorização da agricultura familiar e o trabalho no campo.

Palavras-chave: Cadeia Produtiva do Açaí; Desenvolvimento Regional; Aspectos Sociais; Agentes Econômicos; Sustentabilidade Social.

1 Introduction

A region's economic growth is linked to the performance of specific production chains. Social development variables such as employment rates, physical, mental, and social well-being, and housing are also frequently associated with the performance of specific production chains (Griebeler *et al.*, 2022). In the context of the açaí production chain, regional development theory impacts the local economy and the well-being of the communities involved; this includes the creation of direct and indirect jobs, income distribution, and the development of local infrastructure and services, as well as the environmental effects associated with açaí production (Silva Junior *et al.*, 2021).

Regional development, in theory, can play an important role in supporting the açaí production chain through its approaches, providing a better understanding of its scope and guiding the behaviors of the various components involved. Furthermore, these theories have the potential to influence market trends within the production chain, as highlighted by Dalla Valle and Dorr (2022), and can contribute to the development of initiatives that enhance the system's competitiveness.

As mentioned by Cantuária *et al.* (2022), the state of Pará is a major producer of açaí, with approximately 25,000 people involved in the production chain related to this fruit. The expansion of the açaí market has contributed to greater awareness and knowledge about the fruit, both from a scientific perspective and regarding its origin, which has sparked the interest of new consumers.

A society's dietary patterns are influenced by a variety of economic and social factors (Ambrosi; Grisotti, 2022). However, it is important to highlight that certain foods play a crucial role in defining cultural identities and deep-seated social representations. A significant example of this is açaí, which is predominantly consumed by the population of the state of Pará, in Brazil.

The social and economic impact that the production chain has on the principle of social function is enshrined in Brazil's 1988 Federal Constitution and is one of the fundamental pillars guiding public policies and social relations in the country. This principle establishes that rural settlements and productive economic activity must fulfill a function that goes beyond individual or private interests, contributing to collective well-being and social development (Iwasaki, 2007).

By affirming that the social function is a value far greater than any material wealth, the Constitution emphasizes that human dignity is the primary objective to be achieved by rural settlements and productive economic activity. This means that private property and economic activities must be subordinate to the public interest and the promotion of the common good, ensuring that all citizens have access to fundamental rights and the conditions necessary for a dignified life (Gomes, 2006).

Therefore, the activities of the açaí production chain, carried out by each actor who develops and promotes actions aligned with the principle of the social function of rural enterprises and the economic activity of the production chain are intrinsically linked to the reduction of social inequalities and the promotion of social inclusion, in

the use of natural resources and the organization of social life, always aiming at the collective interest and the general well-being of the population. Thus, this study aims to demonstrate the perceptions of actors in the açaí production chain in the municipality of Concórdia, Pará, regarding the social aspects involved in the productive development of açaí.

2 Theoretical Framework

2.1 Family Farming and Social Function in the Context of the Açaí Production Chain

Understanding the açaí production chain within a given territory as an arrangement that integrates productive practices, traditional knowledge, community ties, and supportive public policies, grounded in the principles of social capital, the foundations of rural sociology, and approaches to territorial production chains, provides a theoretical basis for analyzing the emerging social aspects of açaí production and the perceptions of the actors involved in this process. The central role of family farming, technical assistance, and local food culture highlights the importance of policies that strengthen this chain as an instrument of development, inclusion, and rural retention.

The agri-food production system plays a fundamental role in the economy and society, linking economic, environmental, and cultural elements. The açaí production chain, in particular, represents a diverse social arrangement involving family farmers, extractivists, middlemen, artisanal harvesters, processing industries, merchants, and public agencies (Tavares *et al.*, 2015). It is an integral part of the economic and symbolic life of the Amazonian population, connecting cultural traditions, food identity, and family livelihoods (Silva, Freitas, 2021).

According to Behzadi *et al.* (2017) and Morris *et al.* (2020), efficiently organized production chains contribute to food security, income generation, keeping families in rural areas, and poverty reduction. In the case of açaí, local production is linked to traditional knowledge, regional biodiversity, and market dynamics, which requires a contextualized perspective on its social function (Moraes, Mello, 2022).

Production chains have been addressed by authors such as Zylbersztajn (1996) and Batalha (1997) as organizational systems that integrate economic agents through various forms of coordination, adapting to institutional, social, and consumer demands. In Pará, açaí is an essential food and a source of employment and income, providing jobs for more than 150,000 people (Tavares *et al.*, 2020). As Lopes *et al.* (2021) point out, açaí adds economic, environmental, and social value, promoting the productive organization of families and communities.

The açaí production chain, being driven primarily by family farmers, represents not only an economic activity but also a space for building social bonds, local identities, and ways of life. In this sense, “family farming should be understood not only as a productive unit but also as a social space in which identities, relationships of belonging, and practices that bind individuals to the territory are constructed” (Petarjy; Pedroso Neto, 2024, p. 4).

Family farming plays a central role in this arrangement, both as a producer and as a reproducer of knowledge, identities, strategies, and productive dynamics in the countryside. As Schneider (2009) points out, it is in the valorization of small-scale

production — in its economic, social, and cultural functions — that the potential for rural development lies, ensuring the livelihoods of many families in rural areas. Family farmers not only cultivate açaí but also consume it and transform it into a symbolic and food resource, thereby strengthening food security, productive autonomy, and identity-based ties to their territories (Almeida *et al.*, 2021).

From a legal and political perspective, the açaí production chain is underpinned by the principle of the social function of property, enshrined in the 1988 Constitution, which stipulates that land must be productive, environmentally balanced, and socially just (Iwasaki, 2007; Gomes, 2006). In the context of family farming, this function manifests itself in production diversification, the generation of jobs and income, food security, and the preservation of traditional knowledge (Müller *et al.*, 2002). In this sense, açaí cultivation becomes a strategy that not only enables public policies for rural development but also ensures the dignity of family farmers, aligning with practices of environmental conservation and social inclusion. Furthermore, according to Montinha (2006) and the new Civil Code, the understanding is reinforced that rural property must primarily serve the collective interest and not merely market dynamics or private interests.

In this process, rural extension services occupy a strategic position, acting as mediators between technical-scientific knowledge and local knowledge, which strengthens agricultural practices adapted to local contexts and promotes community leadership (Zarnott *et al.*, 2017; Diesel *et al.*, 2021). As Pereira and Castro (2021) point out, technical assistance must go beyond the simple dissemination of technologies, incorporating and valuing farmers' ways of life, traditional knowledge, and sociocultural dynamics, especially in areas characterized by a strong socio-environmental identity.

3 Methodological Procedures

To conduct the research, a case study was developed as a strategy, as recommended by Yin (2010, p. 21), who emphasizes the clear need to investigate complex social characteristics. According to the author, the case study enables an approach that preserves the holistic and meaningful characteristics of real-life events.

The research was submitted for review by the Ethics and Research Committee of the Federal University of Santa Maria (UFSM) under number 71687623.3.0000.5346. This research is also qualitative in nature, employed to understand the interviewees' perspectives regarding the specific circumstances that affect them, drawing on their experiences, viewpoints, opinions, and meanings—that is, the subjective way in which they perceive their reality (Sampieri, Collado, & Lucio, 2013, p. 376). As for specificity, the research is descriptive in nature, allowing for the observation, recording, and presentation of facts specific to a particular reality.

In this study, primary data were collected through direct observation and semi-structured interviews. Qualitative observation, according to Sampieri, Collado, and Lucio (2013, p. 419), is not limited to mere contemplation but requires deep immersion in social situations, maintaining an active role, constant reflection, and

attention to details, events, and interactions. With regard to interviews, Sampieri, Collado, and Lucio (2013, p. 425) define them as meetings for the exchange of information between the interviewer and the interviewee or other participants.

Thus, the research process began with the development of open-ended interviews that included pre-planned questions. The objective was to understand the perceptions of extension agencies regarding their social role in the açaí production chain within the municipality. The interviews were conducted with five major public extension agencies in February 2023, with an average duration of 60 minutes each. Subsequently, they were transcribed in Word format, using the Times New Roman font, size 12, with 1.5 line spacing, totaling 38,760 words spread over 61 A4 pages.

To categorize each interviewee, they were identified as E1, E2, E3, E4, and E5. The interviews took place at the headquarters of each agency in the municipality of Concórdia do Pará. It is worth noting that these extension agencies have a long history within the municipality, with staff members who possess technical and higher education qualifications. This variable suggests that the responsible professionals and interviewees have in-depth knowledge of the policies adopted by the institution.

Table 1 - Identification of Research Participants

Interviewees	Identification code
<i>EMATER (Technical Assistance and Rural Extension Agency)</i>	E1
<i>ADEPARÁ (Agricultural and Livestock Defense Agency of the State of Pará)</i>	E2
<i>SEMMA (Municipal Secretariat for the Environment)</i>	E3
<i>SEMAGRI (Municipal Department of Agriculture)</i>	E4
<i>BASA (Amazon Bank)</i>	E5

Source: Prepared by the authors (2024).

The information obtained from the interviews was subjected to content analysis, as defined by Bardin (2016, p. 38), who describes this approach as a set of techniques for analyzing communications, employing systematic and objective procedures to describe the content of messages.

In this context, the analysis category “Social Function” was proposed, comprising six units of analysis. According to Bardin (2016), analysis categories can be formulated in advance (a priori) or after data collection (a posteriori), that is, based on theoretical analysis or the data found. A variable represents an element to be coded, which can be a word, a phrase, or a theme. In the present study, we opted for a posteriori analysis, and the units of analysis were represented by words. Qualitative data analysis was conducted using MAXQDA® software.

Finally, to analyze the responses of the interviewed managers more comprehensively, a word cloud was used. This cloud consists of the 100 most frequently used words—out of a total of 1,798 words, each containing at least four characters. This criterion was deemed relevant for the analysis.

4 Analysis and Discussion of the Results

4.1 Social Analysis from the Perspective of Production Chain Actors

The data analysis presents the perceptions of the main actors in the açaí production chain within the municipality of Concórdia do Pará, as well as the social

role they play in collaboration with family farmers who produce açaí, with an emphasis on social aspects. Thus, initially, we sought to understand the relationships among individuals who make up the açaí production chain, whether individual or collective.

In this regard, this subsection begins with Table 1, which summarizes the categories of analysis and their respective units of record, defined after the interviews were conducted. The units of record are presented in alphabetical order and defined as social functions: Self-Consumption; Technical Assistance; Family; Municipality; Production; and Knowledge.

Table 2 - Categories of analysis and units of record

Categories of Analysis
<i>Social Function</i>
Units of analysis (Elements defined a posteriori)
<i>Self-consumption</i>
<i>Technical Assistance</i>
<i>Family</i>
<i>Municipality</i>
<i>Production</i>
<i>Knowledge</i>

Source: Prepared by the authors (2024).

Regarding the social issues surrounding the links in the açaí production chain, interviewee E4 states that:

[...] “production chains are built through the participation of social actors and various processes, encompassing activities such as production, processing, storage, distribution, and marketing” (E4).

The understanding of each stage of the production chain is noteworthy, as social actors constantly interact, influencing and guiding the course of the processes that lead the production chain toward promising outcomes (Cantuária *et al.*, 2022). The açaí production chain plays an essential social role, integrating the participation of family farmers and contributing to the community’s well-being. Interviewee E1 reported: “The importance of participation by farmers who grow açaí and other agricultural crops is fundamental to the employment opportunities and income generation provided by the production chain.”

According to interviewee E3, “community development is entirely linked to the success of a production chain.” This statement highlights the power and inclusivity embodied by the açaí production chain in promoting the participation of diverse social groups. The research focused on family farmers involved in expanding açaí production, a group that contributes to the work of the family, women, and children within the rural household.

The agents and extension agencies present within the municipality help ensure that the social dimension is realized in some way, serving as one of the principles for technical assistance to be provided in a coherent manner, demonstrating that the social function is accessible to and known by everyone in the municipality. According to interviewee E5, who stated: “The rural agricultural

community needs to be aware of investments in infrastructure, education, and social public policies, which are guaranteed rights.”

These services strengthen community foundations, creating an environment conducive to sustainable growth and providing lasting benefits. Building relationships is an essential aspect of social development within the production chain involving local communities. As interviewee E4 noted: [...] “mutual exchange, active participation by farmers, and respect for cultural traditions are key elements for establishing solid partnerships and promoting long-term sustainable development.”

With this in mind, we are working in rural farming communities to establish community nurseries, fostering the participation and engagement of farmers and their families in the production process, from seed selection to the delivery of seedlings for final planting on the farmer’s land.

For interviewee E3, in addition to encouraging the production process, one of the most important social functions would be “training these farmers through programs that enhance their skills.” It is understood that the creation of technical and professional development initiatives would facilitate the professional advancement of farmers and their families, contributing to social and environmental development, minimizing environmental impact, and helping to preserve natural resources through the adoption of responsible ecological practices.

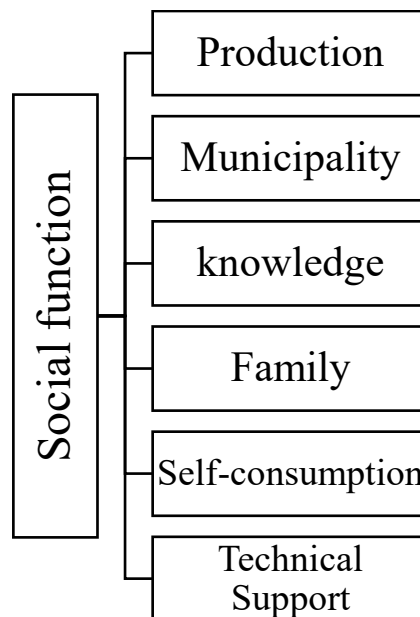
A socially responsible production chain promotes ethical supply chains, ensuring that all stakeholders, from producers to end consumers, benefit from fair and ethical business practices (Baptista Junior; Begnis, 2021). Interviewee E1 emphasized that:

The social role in the development of the açaí supply chain must go beyond economic aspects; the supply chain must encompass the creation of opportunities, the promotion of equity, the improvement of working conditions, environmental preservation, and the strengthening of local communities (E1).

4.2 Results of the analyses of the social function registration units

Figure 2 presents the main units of social function as perceived by stakeholders in the açaí production chain: self-consumption, technical assistance, family, municipality, production, and knowledge.

Figure 2 - Social Function as Perceived by the Interviewed Stakeholders



Source: Prepared by the authors (2024).

More specifically, Table 1 presents the frequencies of these units of reference related to social function.

Table 3—Frequency of mention of the units of reference for social function, among the 100 most frequently used words

Social function	Number of mentions	Total weighted percentage	Percentage out of 100
Production	72	4.00%	36.36%
Municipality	57	3.17%	28.79%
knowledge	27	1.50%	13.64%
Family	17	0.95%	8.59%
Self-consumption	13	0.72%	6.57%
Technical assistance	12	0.67%	6.06%
Total	198	11.00%	100.00%

Source: Survey data (2024).

Upon analyzing the data in Table 1, it was observed that the term “production unit,” with 72 mentions, was most frequently cited as a tool for social function because it integrates participatory principles of knowledge passed down by previous generations regarding açai management. This number of mentions represents 4.00% of the total words (1,798) mentioned and 36.36% of the 100 most frequently mentioned words.

The variable “municipality,” with 57 references, was the second most frequently mentioned unit by the agents as an instrument of social function, ahead of farmers’ participation in the city, which is characterized by a significant rural area surrounding the municipality, and “knowledge,” with 27 mentions, was the third most frequently mentioned, representing the açai work of family farmers that is permeated by traditional knowledge passed down through generations. In terms of total percentages, they account for 3.17% and 1.50%, respectively, of the most frequently mentioned words. Among the top 100 most frequently mentioned terms, they account for 28.79% and 13.64%, respectively.

The three least-used terms were “family,” “self-consumption,” and “technical assistance,” with 17%, 13%, and 12% of mentions each, representing 8.59%, 6.57%, and 6.06% of the total number of words. The use of the word “family” is intended to represent the family bonds that the açaí culture fosters in supporting the household and raising children. “Self-consumption” shows that farmers involved in the açaí production process are concerned with much more than just income; açaí is a staple in the family’s diet. Among the aforementioned terms, “technical assistance” highlights the importance of helping these açaí farmers remain steadfast on their farms, producing high-quality products safely.

4.3 Açaí Production as an Expression of the Social Function of Family Farming

Production was the most frequently mentioned variable in interviews with actors in the açaí production chain in the municipality of Concórdia do Pará. This recurrence highlights the centrality of production as the structural backbone of the social function performed by the açaí chain, especially in the context of family farming.

As highlighted by interviewee E4: “Açaí encompasses various aspects, ranging from production itself, the farmer’s life, and cultivation, to issues related to transportation, logistics, industry, and marketing.” This statement illustrates the complexity of the production system and confirms Batalha’s (1997) view that the efficiency of a supply chain depends on its ability to efficiently integrate the different links in the production chain.

Among the main obstacles to the consolidation of efficient production, the lack of adequate funding stands out, funding that could ensure support from the initial phase of seedling production through the development of the plants in the field. Inputs such as fertilizers and technical assistance are required, but access to them is limited by the farmers’ financial circumstances. This factor is a key determinant of low productivity and the difficulty in expanding the areas cultivated with açaí within the municipality.

Minimizing the relevant challenges in the production process faced by family farmers is essential for the production chain to continue developing. However, a scarcity of resources and logistical difficulties pose specific challenges in the municipality of Concórdia. Interviewee E1 noted:

There is a chronic challenge in the municipality, marked by the scarcity and high cost of transportation, especially with regard to moving produce. The problem is exacerbated by limited resources and poor road conditions, making it a constraining factor (E1).

Nevertheless, structural barriers persist that limit the full functioning of the production chain, especially in the context of family farming. Among the main obstacles identified are the high cost of transportation, the poor condition of local roads, and the limited availability of rural credit. Added to this is the absence of an effective public policy on land regularization, a factor that undermines both production stability and farmers’ access to financing and other institutional support instruments. These challenges are highlighted by Cruz (2021), who notes that the

fragility of support systems for small-scale producers negatively impacts the performance of family-based production chains, compromising their economic, social, and environmental dynamics.

On the other hand, local stakeholders highlighted initiatives aimed at strengthening production, particularly through rural extension activities, with an emphasis on establishing community nurseries for seedling production. Interviewee E4 described the extension activities carried out in the municipality with family farmers in the communities.

We have expanded the community nurseries, enabling larger-scale production without additional costs. This has already benefited many families. We have a space to share knowledge with farmers and have already achieved significant production levels, exceeding 2,000,000 açaí seedlings in Concórdia (E4).

These initiatives expand access to seeds and encourage the exchange of knowledge among farmers. The importance of community nurseries was also mentioned by interviewee E3, who highlighted the partnership with the Pará State Institute for Forest and Biodiversity Development (IDEFLOR):

Here we grow various varieties in our nursery, in partnership with IDEFLOR; we receive seeds or seedlings from them, and from there we make donations, although the quantity may vary depending on the situation and the specific area in question, based on each farmer's needs (E3).

These practices are in line with the proposals of Gomes, Nogueira, and Costa (2018), who advocate for the role of rural extension as a tool for valuing local knowledge and strengthening farmers' technical skills. Although public initiatives have led to progress, it is necessary to foster greater cooperation among small-scale producers. Collective coordination and networking are considered essential for scaling up production, sharing technologies, and overcoming common challenges. This perspective reinforces the arguments of Vedená *et al.* (2022), who highlight the organization of family farmers as a strategic pillar for rural socioeconomic development.

4.4 The Role of the Municipality in Strengthening the Production Chain

The municipality was the second most frequently cited variable by the interviewed stakeholders, reflecting its strategic role in strengthening the açaí production chain in the municipality of Concórdia do Pará. The municipal administration exerts direct influence over the economic performance of the production chain, especially by facilitating structural conditions that impact the production, distribution, and marketing of the fruit.

Among its responsibilities, investments in basic infrastructure—such as roads, ports, and energy—stand out as essential for reducing logistics costs, increasing production efficiency, and ensuring the competitiveness of local farmers. This public responsibility aligns with the findings of Nogueira, Santana, and Garcia (2013), who

emphasize that the development of agri-food supply chains is strongly contingent on the presence of coordinated territorial public policies.

According to the interviewees, the municipality of Concórdia do Pará is recognized as a region focused on agricultural activity, with açaí production being one of its main economic and cultural pillars. Beyond production itself, municipal efforts also include the coordination of inter-institutional partnerships. In this regard, the stakeholders highlighted the importance of strengthening relationships between government agencies, research institutions, and companies in the sector as a strategy to facilitate knowledge exchange, foster technological innovations, and consolidate cooperation networks.

The municipality bears responsibility for ensuring the security and maintenance of the açaí production chain. Access to public services tailored to the agricultural sector can drive local growth. In light of this, interviewee E4 states: “The development of partnerships between companies, research institutions, and government agencies strengthens the production chain, fostering the exchange of knowledge and resources.”

The açaí production chain boosts the municipality’s economy; the retail outlets scattered throughout the city that sell the pulp contribute to the municipality’s social and economic viability (Nogueira; Santana; Garcia, 2013). Diversifying access to marketing channels can provide farmers with greater autonomy and resilience while simultaneously creating opportunities for consumers to access healthy foods (Cassol; Deggerone; Schneider, 2024, p. 10).

However, interviewee E2 highlighted the importance of municipal actions in the area of health surveillance:

The municipality’s health surveillance agency should conduct inspections at the processing facilities, as this is where the final product is produced and, in fact, where consumers gain access to it. Therefore, it is crucial that the municipal health surveillance agency be involved in this process (E2).

Thus, it is evident that the municipality plays a strategic role, contributing to the strengthening and sustainable growth of the açaí production chain at the local level. Its actions drive the region’s economic and social development, providing long-term benefits.

4.5 Knowledge as a Practical and Cultural Foundation in the Açaí Production Chain

The category “knowledge” was the third most frequently mentioned in the interviews, standing out as an essential component for understanding the social function performed by the açaí production chain in the municipality of Concórdia do Pará. In this context, knowledge goes beyond formal technical expertise: it incorporates practices, experiences, and cultural values historically developed by rural communities and applied in the daily routine of productive activities.

According to the accounts, the knowledge accumulated by farmers over time is one of the pillars supporting açaí production, especially in the traditional and várzeas areas of the region. Interviewee E4 emphasized the following: “This knowledge is expressed in the daily work on the farmer’s property.” This empirical

Knowledge, consolidated through daily practice, encompasses everything from the selection of seedlings to the management of spacing, soil preparation, and the optimal time for planting. These elements demonstrate the existence of technical and practical knowledge deeply rooted in the farmers' experiences.

The interviewees' perspectives also point to the dynamic nature of this knowledge, which is constantly renewed through the interaction between tradition and innovation, as it is "changeable and accumulative," being constructed over time. This perspective reinforces the idea that family farmers are also producers of knowledge, as they develop adaptive strategies, incorporate new techniques, and continuously improve production processes. As Silva and Freitas (2021) argue, this is a form of know-how that enhances not only the efficiency of the production chain but also its dynamism and capacity for innovation.

The ability of family farmers to adapt to changes and daily challenges is a critical aspect of this practical knowledge. Identifying shortcomings, adjusting routines, and carefully managing production reveal a body of knowledge that is constantly evolving. In this process, rural extension agencies play a strategic role by supporting the appreciation and continuity of local knowledge, without disregarding the importance of technological innovations. As noted in the interviews, these institutions act as mediators between traditional knowledge and scientific knowledge, enhancing skills already practiced by farmers and expanding their technical repertoire.

Based on this analysis, Silva and Freitas (2021) assert that farmers' knowledge is an indispensable element for the development of the açai production chain. It ensures the practical application of knowledge, operational efficiency, and the continuous renewal of cultivation techniques, contributing to the success of the activity at the local and regional levels. Thus, valuing traditional knowledge does not mean remaining oblivious to innovation, but rather integrating different forms of knowledge as a strategy to strengthen family farming and promote territorial development.

4.6 The Central Role of the Family in the Açai Production Chain

The third variable was the family, which featured prominently in the interview transcripts, highlighting its essential role in sustaining the açai production chain in Concórdia do Pará. Interviewee E1 stated that "the rural community in the municipality, in particular, is composed of family-based economic activities," which demonstrates the predominance of family-based production structures, highlighted by the interviewees as one of the main characteristics of local agricultural dynamics, and reaffirms the leading role of family farming in the region.

According to the accounts, most of the economic activities in the municipality's rural areas are concentrated in family-run enterprises. Interviewee E5 emphasized that açai production is largely carried out by families who organize their daily lives around the cultivation, processing, and sale of the fruit. This configuration reinforces the understanding that family farming is, at the same time, a unit of production, consumption, and social reproduction.

The açai supply chain, therefore, contributes not only to generating income but also to strengthening social bonds and preserving cultural practices. Productive

activities are passed down across generations, forming a type of intergenerational knowledge that ensures the continuity of agricultural practices. In this regard, Santos, Ramos, and Guedes (2021) emphasize that families' participation in açaí cultivation is a fundamental driver of the Amazon's social, economic, and environmental development, as well as a factor in keeping families in rural areas.

Interviewee E3 made the following observation:

What is the staple crop of family farming on any rural property? [...] Generally, in many regions, it's corn. However, in Concórdia, I'd say it's açaí. Wherever you go, there's açaí planted; it's even common to see açaí planted right in front of people's homes (E3).

In this context, family farming emerges as a form of productive social organization that contributes to economic diversification and food security in communities. Furthermore, the importance of access to technologies was highlighted as a factor capable of strengthening family farming. Through the use of technological practices, it is possible to dispel the stigma that small farmers are averse to innovation; and by adopting appropriate techniques, productivity is increased and the capacity of family farming to modernize without losing its identity is reaffirmed.

Another aspect highlighted by interviewee E2 was the issue of labor, noting that "local, skilled labor from within the family is a significant advantage." This statement by the interviewee shows that families seek to invest in the training of younger members by providing formal education and passing on practical skills, thereby preparing the next generation to contribute effectively to the production chain, providing not only human and economic resources but also values, knowledge, and a solid foundation for the sustainable growth of local economic activities.

4.7 Self-Consumption as a Sociocultural and Dietary Practice in the Açaí Production Chain

The category of self-consumption was the fifth most frequently cited variable by the interviewees, revealing its significant role in the social structure of the açaí production chain in Concórdia do Pará. This practice not only strengthens the food security of producer families but also reinforces cultural values and the autonomy of family farming, impacting several fundamental aspects.

The interviewees highlighted that self-consumption is common among all family farmers in the region, with açaí being an integral part of the daily diet. As interviewee E2 noted, self-consumption "is essential for local food security," as it reduces dependence on external sources and makes families more resilient in the face of market and supply fluctuations. This perspective aligns with the discussions by Santos, Ramos, and Guedes (2021), who point to production for self-consumption as a strategy for food sovereignty in rural areas.

In addition to its nutritional value, açaí holds deep significance, linked to Amazonian tradition and cultural identity. As interviewee E3 noted, "the açaí harvest season, from August to November, increases consumption of the fruit"; this demonstrates that self-consumption goes beyond a mere survival strategy: it

expresses a way of life in which food is deeply connected to the land, to traditional farming practices, and to the sociocultural repertoire of rural communities.

Another relevant point mentioned concerns the relationship between self-consumption and the promotion of local production. By ensuring that what is produced within the household is utilized, farmers reduce waste, promote production diversification, and encourage practices adapted to local conditions. For the interviewees, subsistence consumption acts as a driving force for production, as it establishes ties that keep them rooted in the territory and reinforces the social function of family farming.

The study conducted by Almeida *et al.* (2021) reveals a high level of açai consumption among producers, both during the harvest season and in the off-season. During the harvest season, producers have a daily per capita consumption of 1.60 liters and a daily household per capita consumption of 292.80 liters. During the off-season, daily household per capita consumption increases to 1.73 liters, totaling 314.86 liters over that period.

These figures, compiled by the author, show that the annual per capita household consumption of açai pulp by producers, throughout the year, is 607.66 liters, demonstrating that these data highlight the significance of açai in the diet and daily lives of producer families, underscoring its importance as a fundamental food resource for these communities throughout the year.

4.8 Technical Assistance as the Cornerstone of Productive Capacity Building and Social Inclusion

Technical assistance emerged as the sixth and final variable in the interviews and was identified by actors in the açai production chain as an essential pillar for the development of family farming in Concórdia do Pará. Its importance lies not only in the transfer of technical knowledge but also in strengthening production organizations, creating opportunities, and including farming families in public policies. In the view of interviewee E4, "in-person technical assistance can be an ally in facilitating communication, access to information, and even reaching more remote regions."

According to the interviewees, in-person technical assistance enables direct monitoring of farms, fostering dialogue between extension agents and producers, especially in more isolated areas. By providing practical guidance on management, cultivation techniques, and the efficient use of resources, technical assistance plays an educational and mobilizing role. This understanding aligns with the analyses by Diesel *et al.* (2021), who highlight technical assistance as a driver of social innovation and the strengthening of family farming.

Optimizing the quality of fieldwork enhances the effectiveness of açai farmers. To ensure this occurs on a widespread basis for everyone, the interviewed agents unanimously register each family farmer who comes to the institution seeking assistance. Interviewee E5 states, "These farmers need to be registered here by EMATER; they need to have the CAF to have this family farmer registration on file."

EMATER's role was cited as central to the provision of the service. Interviewee E1 reported that the technical team conducts periodic visits, develops guidelines adapted to local conditions, and coordinates training activities through courses,

workshops, and field days. According to Gomes, Nogueira, and Costa (2018), these activities are part of an extension approach that values local knowledge, fosters dialogue between science and practice, and promotes farmers' autonomy.

Despite its recognized importance, the interviewees also highlighted the fragility of the technical assistance and rural extension system, exacerbated by budgetary constraints, staff shortages, and the discontinuity of public policies. Given this scenario, they advocate for the institutional strengthening of state and municipal agencies, as well as the development of partnerships between governments, universities, civil society organizations, and the private sector. This view is in line with Vedana *et al.* (2022), who advocate for inter-institutional cooperation as a strategy to overcome the historical gaps in rural extension in Brazil.

Another point emphasized is the need to adapt technical assistance to local specificities. Interviewee E1 emphasized the following argument: "More efficient technical assistance tailored to local needs is essential." It is understood that the social dimension should not be neglected, since technical assistance can promote social inclusion and the development of the local community. This may involve creating opportunities to empower small farmers and foster sustainable development in rural areas.

Overall, the interviewees' statements reveal that technical assistance plays a foundational role in the açaí production chain: it facilitates access to specialized knowledge, enhances the adoption of innovations, improves the efficiency of production processes, and fosters the integration of technical knowledge with local ways of life. As such, it serves as a strategic pillar for strengthening family farming and for rural development with social justice.

4.9 Understanding the Social Function of the Açaí Production Chain Through a Word Cloud

Analysis of the word cloud generated from interviews with stakeholders in the açaí production chain in Concórdia do Pará provides a graphical representation of the most frequently used terms, offering a summary of the vocabulary employed by research participants in constructing their perceptions of the social function of the local production system.

It can be observed that, among the 15 most frequently used words—disregarding category and units of record—the participants frequently used the following terms: *açaí*; *producer*; *production*; *region*; *municipality*; *plant*; *sell*; *register*; *area*; *system*; *agriculture*; *chain*; *plantation*; *Concordia*; *pulp*.

Figure 3 - Word cloud from the interviews with the agents

It was found that the açaí production chain is not limited solely to production and commercialization but also encompasses a series of intrinsic social elements. Family farmers play an essential role, not only as producers but as active agents in preserving local culture, generating income and employment opportunities, and promoting community development.

The six analytical categories—production, municipality, knowledge, family, self-consumption, and technical assistance—are fundamental pillars of the social function within the açaí production chain. Each highlights specific dimensions of the production process, pointing to the complexity and richness of the elements that make up this chain. Production, for example, serves as the economic and technical foundation; the municipality, as an institutional agent and driver of public policies; knowledge, as intangible heritage; the family, as the nucleus of social and productive reproduction; self-consumption, as a practice of food sovereignty; and technical assistance, as a driver of innovation and skill development.

The açaí culture, therefore, presents itself as a way of life that integrates traditional knowledge, diverse practices, and strategies of social resistance. The involvement of families in the different phases of the process—from production to consumption—strengthens community ties and contributes to social cohesion and food security among rural populations.

Technical assistance, in turn, has proven essential for strengthening the supply chain, although it still faces structural challenges that limit its reach, especially in more remote areas. Expanding and strengthening these services through localized and participatory initiatives is urgently needed to ensure greater autonomy, innovation, and inclusion for family farmers.

Thus, it can be concluded that the dynamics of the açaí production chain in Concórdia do Pará depend on the interplay between economic, social, cultural, and institutional factors. Valuing local knowledge, promoting productive inclusion, ensuring appropriate public policies, and strengthening family farming are fundamental strategies for consolidating an integrated, solidarity-based, and locally rooted approach to rural development.

REFERENCES

ALMEIDA, Hellem Pinheiro *et al.* Perfil socioeconômico da produção de açaí manejado em comunidades rurais do Município de Igarapé-Miri, Pará. **Research, Society and Development**, v. 10, n. 11, p. e592101120084-e592101120084, 2021.

ALMEIDA, Hellem Pinheiro *et al.* Produção e autoconsumo de açaí pelos ribeirinhos do Município de Igarapé-Miri, Pará. **Research, Society and Development**, v. 10, n. 9, p. e51710918376, 1 ago. 2021.

AMBROSI, Claudia; GRISOTTI, Márcia. O Guia Alimentar para População Brasileira (GAPB): uma análise à luz da teoria social. **Ciência & Saúde Coletiva**, v. 27, p. 4243-4251, 2022.

BAPTISTA JUNIOR, Gualter.; BEGNIS, Heron Sergio Moreira. Gestão Sustentável na Cadeia de Suprimentos da Indústria do Tabaco. **Revista de Gestão Social e Ambiental**, v. 15, n. 1, p. e2722, 28 set. 2021.

BATALHA, Mário Otávio. **Gestão Agroindustrial**. São Paulo: Atlas, 1997.

BARDIN, Laurence. **Análise de conteúdo**. São Paulo: Edições 70. 2016.

BEHZADI, Golnar., O'SULLIVAN, Michael Justin., OLSEN, Tava Lennon., SCRIMGEOUR, Frank; ZHANG, Abraão. Robust and resilient strategies for managing supply disruptions in an agribusiness supply chain. **International Journal of Production Economics**, 191, 207-220. 2017.

CANTUÁRIA, Thiza Viana. et al. Riscos de ruptura na cadeia de suprimento do açaí na visão dos gestores do Estado do Pará. **Research, Society and Development**, [s. l.], v. 11, n. 4, p. e17411427261, 2022.

CASSOL, Abel; DEGGERONE, Zenicléia Angelita; SCHNEIDER, Sergio. Sociologia dos mercados alimentares: revisão e contribuições teóricas e metodológicas recentes. **Redes (Santa Cruz do Sul, Online)**, v. 29, 2024. Disponível em: <https://online.unisc.br/seer/index.php/redes/article/view/19288>. Acesso em: 28 maio 2025.

CRUZ, José Elenilson. Estudos em Agronegócio: Participação Brasileira nas cadeias produtivas no Brasil. VL 5. Goiânia, GO: **Editores Kelps**, 2021.

DA SILVA, Suany Machado.; DE FREITAS, Alair Ferreira. Mudanças nos Meios de Vida dos Ribeirinhos a Partir da Ressignificação Econômica do Açaí (*Euterpe oleracea* Mart.): um Estudo em Igarapé-Miri/Pa. **Amazônica - Revista de Antropologia**, v. 13, n. 1, p. 345, 31 ago. 2021.

DALLA VALLE, Carine., & DORR, Andrea. Cristina. Custos de transações e estruturas de governança na cadeia produtiva de pedras preciosas. **Revista Gestão Organizacional**, 15(2), 43-63, 2022.

DIESEL, Vivien. et al. Política de Assistência Técnica e Extensão Rural no Brasil: um caso de desmantelamento? **Estudos Sociedade e Agricultura**, v. 29, n. 3, 1 out. 2021.

DOS SANTOS, Erick Silva; RAMOS, Claudia Azevedo; GUEDES, Marcelino Carneiro. Segurança alimentar de famílias extrativistas de açaí na Amazônia oriental brasileira: o caso da Ilha das Cinzas. **Novos Cadernos NAEA**, v. 24, n. 2, 25 ago. 2021.

FIALHO, José Tarciso et al. Influência do ambientalismo na política florestal produtiva: uma percepção dos atores sociais da cadeia produtiva da madeira do Paraná. **Floresta**, Curitiba, PR, v. 39, n. 3, p. 577-595, jul./set. 2009.

GOMES, Marcus Vinícius Coutinho. **O descomissionamento ambiental.**, 156 f. Dissertação (Mestrado em Direito) - Centro Universitário Norte Fluminense, Campos dos Goytacazes-RJ. 2002.

GOMES, Marcia Campos.; NOGUEIRA, Ana Claudia Fernandes.; COSTA, Francimara Souza. da. Assistência técnica e extensão rural em comunidades rurais do sul do Amazonas. **Novos Cadernos NAEA**. V. 21, n. 2, p. 193-211, mai./ago. 2018.

GRIEBELER, Marcos Paulo Dhein, et al. **Dicionário Contemporâneo de Cooperativismo**. 1. ed. [S.l.]: Conceito, 2022.

LOPES, Maria Lúcia Bahia; SOUZA, Caio Cezar Ferreira; FILGUEIRAS, Gisalda Carvalho; HOMMA, Alfredo Kingo Oyama. Cadeia Produtiva do Açaí em Tempos Recentes. In: Medina, G. S.; Cruz, J. E (orgs.). Estudos em Agronegócio: participação brasileira nas cadeias produtivas - V. 5. - Goiânia / **Kelps**, 390 p, 2021.

MORRIS, Michael; ASHWINI, Rekha Sebastian; VIVIANA, Maria Eugenia Perego. 2020. Panoramas alimentarios futuros: Reimaginando la agricultura en América Latina y el Caribe. Washington DC: **Banco Internacional de Reconstrucción y Fomento** / Banco Mundial.

MONTILHA, G. O meio ambiente e a propriedade. Curitiba: **IAP**, 2006 (parecer em manuscrito).

MOURÃO, Leila. História e natureza: Do açaí ao palmito. **Revista Territórios e Fronteiras**, v. 3, n. 2, p. 74, 30 mar. 2011.

MÜLLER, Manfred Willy. et al. Sistemas agroflorestais com cacau como exploração sustentável dos biomas tropicais. **Semana do Fazendeiro**, 25^a, Uruçuca, 2003. p. 137-142.

MELO, Gisely Da Silva.; COSTA, F. S.; SILVA, L. C. D. O cenário da produção do açaí (*Euterpe spp.*) no estado do amazonas/ The production scenario of açaí (*Euterpe spp.*) in the state of amazonas. **Brazilian Journal of Development**, v. 7, n. 7, p. 71536–71549, 15 jul. 2021.

NOGUEIRA, Ana Karlla Magalhães; SANTANA, Antônio Cordeiro.; GARCIA, Wilnália Souza. A dinâmica do mercado de açaí, fruto no Estado do Pará: de 1994 a 2009. **Revista Ceres**, v. 60, n. 3, p. 324–331, jun. 2013.

PEIXOTO, Marcus. Extensão rural no Brasil – uma abordagem histórica da legislação. (Texto para discussão 48). Brasília: **CONEG**, 2008.

PETARLY, Renata Rauta; PEDROSO NETO, Antônio José. Delineamento do espaço social da agricultura familiar no meio rural tocantinense. **Redes, Santa Cruz do Sul**, v. 29, n. 1, p. 1–20, 2024. Disponível em:

<https://online.unisc.br/seer/index.php/redes/article/view/17732>. Acesso em: 28 de maio de 2025.

PEREIRA, Caroline Nascimento., CASTRO, César Nunes de. Assistência técnica na agricultura brasileira: uma análise sobre a origem da orientação técnica por meio do Censo Agropecuário de 2017 (Texto para discussão 2704). Rio de Janeiro: **IPEA**, 2021.

SAMPIERI, Roberto Hernández.; COLLADO, Carlos Fernández.; LUCIO, María del Pilar Baptista. Metodologia de pesquisa. 5. ed. Porto Alegre: **Penso**, 2013.

SILVA JUNIOR, José Itabirici de Souza et al. Socioeconomia e perspectivas dos sistemas de produção do açaizeiro no município de Abaetetuba (PA), Amazônia brasileira. **Research, Society and Development**, [s. l.], v. 10, n. 1, p. e53010112015, 2021.

SILVA, Suany Machado; FREITAS, Alair Ferreira. Mudanças nos Meios de Vida dos Ribeirinhos a Partir da Ressignificação Econômica do Açaí (*Euterpe oleracea* Mart.): um Estudo em Igarapé-Miri/PA. **Amazônica - Revista de Antropologia**, [s. l.], v. 13, n. 1, p. 345, 2021.

TAVARES, Geraldo dos Santos, et al. Análise da produção e comercialização de açaí no estado do Pará, Brasil. **International Journal of Development Research**, v. 10, n. 4, p. 35215-35221, 2020.

TAVARES, Geraldo et al. Comercialização do açaí no estado do Pará: alguns comentários. **Observatorio de la Economía Latinoamericana**, n. 211, 2015.

VEDANA, Roberta.; GARCIAS, Marcos de Oliveira.; SHIKIDA, Pery Francisco Assis. A.; ARENDS-KUENNING, Mary Paula. O cooperativismo na dinâmica econômica e social da agropecuária brasileira. Rio de Janeiro: **IPEA**, 2022.

WASAKI, Micheli Mayumi. Função social da propriedade rural e a proteção jurídica do meio ambiente. **Revista Eletrônica do CEJUR**, Curitiba-PR, a. 2, v. 1, n. 2, ago./dez. 2007.

ZARNOTT, Alisson.; DALBIANCO, Vinicius P.; NEUMANN, Pedro S.; FIALHO, Marco Antônio V. Avanços e retrocessos na política de extensão rural brasileira: análise crítica sobre a ANATER. **Revista de la Facultad de Agronomía**, [S. l.], v. 116, n. 3, 2018. Disponível em: <https://revistas.unlp.edu.ar/revagro/article/view/6147>. Acesso em: 22 de fevereiro. 2024.

ZYLBERSZTAJN, Decio. **Estruturas de governança e coordenação do agribusiness: uma aplicação da Nova Economia das Instituições**. 238p. Tese (Livre-Docência) - Departamento de Administração, Faculdade de Economia, Administração e Contabilidade, Universidade de São Paulo, São Paulo, 1995.

YIN, Robert K. **Estudo de caso: planejamento e métodos**. 4. ed. Porto Alegre: Bookman, 2010.

Jamison Pinheiro Ribeiro. Doutorando em Extensão Rural. Universidade Federal de Santa Maria (UFSM) – Rio Grande do Sul - Brasil. E-mail Jamison.ribeiro@acad.ufsm.br

Andrea Cristina Dorr. Doutora em Economia. Universidade Federal de Santa Maria (UFSM) – Rio Grande do Sul - Brasil. Professora Assistente. Departamento de Educação Agrícola e Extensão Rural (DEAER). E-mail andreadoerr@yahoo.com.br

Carine Dalla Valle. Doutora em Administração. Universidade Federal de Mato Grosso do Sul (UFMS) – Mato Grosso do Sul - Brasil. Professora Adjunta. E-mail carinedallavalle@gmail.com

Submetido em: 21/07/2025

Aprovado em: 25/08/2026

CONTRIBUIÇÃO DE CADA AUTOR

Conceituação (Conceptualization): Jamison Pinheiro Ribeiro; Andrea Cristina Dorr; Carine Dalla Valle

Curadoria de Dados (Data curation): Jamison Pinheiro Ribeiro; Andrea Cristina Dorr; Carine Dalla Valle

Análise Formal (Formal analysis): Jamison Pinheiro Ribeiro;

Obtenção de Financiamento (Funding acquisition):

Investigação/Pesquisa (Investigation): Jamison Pinheiro Ribeiro; Andrea Cristina Dorr; Carine Dalla Valle

Metodologia (Methodology): Jamison Pinheiro Ribeiro; Andrea Cristina Dorr; Carine Dalla Valle

Administração do Projeto (Project administration):

Recursos (Resources):

Software:

Supervisão/orientação (Supervision): Andrea Cristina Dorr; Carine Dalla Valle

Validação (Validation):

Visualização (Visualization):

Escrita – Primeira Redação (Writing – original draft): Jamison Pinheiro Ribeiro;

Escrita – Revisão e Edição (Writing – review & editing): Andrea Cristina Dorr; Carine Dalla Valle

Fontes de financiamento: Este trabalho foi realizado com apoio da

Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)

– **Brasil – Código de Financiamento 001.**