


**ADVENTURE LEISURE ACTIVITIES AND ENVIRONMENTAL IMPACTS:
UPDATES ON RAFTING IN BROTAS/SP, 30 YEARS AFTER ITS
IMPLEMENTATION**

Received on: March 28th, 2024

Approved on: May 28th, 2024 License: 

Marília Martins Bandeira¹

Universidade Federal do Rio Grande do Sul (UFRGS)

Porto Alegre - RS - Brazil

<https://orcid.org/0000-0002-4055-1881>

Olivia Cristina Ferreira Ribeiro²

Universidade Estadual de Campinas (UNICAMP)

Campinas - SP - Brazil

<https://orcid.org/0000-0002-7226-0720>

ABSTRACT: This article problematizes the case of Brotas, a municipality in the state of São Paulo, which, despite its pioneering role in ecotourism and body-based adventure practices in natural environments, especially related to the Jacaré-Pepira River, has recently suffered from environmental impacts and threats to its landscapes. Inspired by the ethnographic method, which combines virtual interaction, face-to-face conversations, participant observation, and documentary analysis, this study analyzes the mobilization of adventure leisure workers, specifically rafting, for the municipality's environmental conservation beginning in 2020. Despite advances in effective public policies, challenges persist that have led to periods of extreme drought alternating with floods, landslides, and silting. We identified the importance of leisure professionals in producing information for the government, claims against suspects, public awareness, and collective articulation to maintain environmental integrity and tourism and sport as vectors of sustainable development. However, it finds divergences among its agents.

KEYWORDS: Leisure. Environment. Adventure tourism. Outdoor sports.

**ATUAÇÃO EM LAZER DE AVENTURA E IMPACTOS AMBIENTAIS:
ATUALIZAÇÕES SOBRE O RAFTING EM BROTAS/SP, 30 ANOS APÓS SUA
IMPLEMENTAÇÃO**

RESUMO: Este artigo problematiza o caso de Brotas, município do estado de São Paulo, que mesmo com seu pioneirismo no ecoturismo e práticas corporais de aventura em ambientes naturais, especialmente relacionados ao rio Jacaré-Pepira, recentemente vem sofrendo com impactos ambientais e ameaça de suas paisagens. Inspirado no método etnográfico, que combina interação virtual, conversas presenciais, observação participante e análise documental, esse estudo analisa a mobilização dos trabalhadores

¹ Doctorate in Physical Education. Group of Sociocultural Studies in Physical Education (GESEF). Professor at the School of Physical Education, Physiotherapy, and Dance ESEFID/UFRGS.

² Doctorate in Physical Education. Professor at the Faculty of Physical Education FEF/UNICAMP.

do lazer de aventura, mais especificamente do rafting, pela conservação ambiental de sua cidade a partir do ano de 2020. Constata-se que, apesar de avanços em políticas públicas efetivas, persistem desafios que levaram a períodos de seca extrema alternados com inundações, deslizamentos de terra e assoreamento. Identificou-se a importância dos profissionais de lazer na produção de informações para o poder público, reivindicações aos suspeitos, conscientização da população e articulação coletiva para manter a integridade ambiental e o turismo e o esporte como vetores de desenvolvimento sustentável, embora encontre divergências de posicionamentos entre seus agentes.

PALAVRAS-CHAVE: Lazer. Meio ambiente. Turismo de aventura. Esportes na natureza.

Introduction

Academic investigations in leisure studies began to analyze the various aspects of the adventure sector in Brotas approximately 10 years after its implementation. Sousa (2004) with "O imaginário no rafting: uma busca pelos sentidos da aventura, do risco e da vertigem, Bahia (2005)" in the thesis "Lazer-meio ambiente: em busca das atitudes vivenciadas nos Esportes de Aventura", and Carnicelli Filho and Schwartz (2005) in "Guias de Rafting: perfil e emoções", among other associated and subsequent publications, stabilized the case of Brotas in the agenda of the field of leisure studies, specifically adventure, in interface with physical education.

In a second moment of investigation, in "Um estudo das políticas públicas de lazer de Brotas/SP", although it did not focus on the adventure issue, Ribeiro (2012) found that Brotas was a pioneer municipality in accepting mobilization in favor of the river's health and, consequently, the health of its environment and population, and implementing ecotourism and adventure tourism as a sustainable alternative to other industries. However, his critical analysis indicated necessary improvements in democratizing access to these activities for low-income residents and a more significant commitment to controlling the impacts of the many tourists who visit the municipality. In the thesis "No galejo da remada: estudo etnográfico sobre a noção de aventura em

Brotas, SP”, Bandeira (2012) presented the municipality as one among the pioneers in ecotourism and sports tourism in which the primary river never dried up. Therefore, Brotas had a rafting practice that never ceased, a rare case compared to other rivers in Brazil and worldwide, where it is impossible to navigate rivers during a specific season of the year, hence its peculiar scientific relevance. However, the study disclosed adventure leisure workers' unstable and underpaid situation and their claims.

According to Ribeiro (2012), Brotas has many rivers, streams, dams, waterfalls, and springs, among which the Jacaré Pepira River stands out. This river is part of the Brotense landscape and has many falls and rapids, where residents and tourists take the primary leisure experiences in nature. The urban perimeter of Brotas grew around the Jacaré River and its historic center near the municipality's “postcard” landscape, waterfalls that fed a pioneering small hydroelectric plant, around which, after being deactivated, the Parque dos Saltos was created. The author also states that Brotas has been a reference for other municipalities for having advanced environmental legislation and stands out for having constituted the Municipal Council of the Environment (Comdema) in 1984 and the consortium³ signed between several neighboring municipalities in 1986 for the preservation of the Jacaré Pepira River (Ribeiro, 2012). However, residents have been reporting the dismantling of the consortium.

Another critical research interface on Brotas is environmental studies with management studies, which, since the first decade of the 2000s, warned that not all laws part of the Municipal Policy for Sustainable Tourism Development (PMTS) have been implemented. Additionally, the composition of the municipal councils became increasingly entrepreneurial, with little participation of professionals related to

³ This consortium brought together 13 municipalities in the Jacaré-Pepira River Basin, Brotas, Itirapina, Ribeirão Bonito, São Pedro, Torrinha, Dourado, Dois Córregos, Boa Esperança do Sul, Jau, Bariri, Bocaina, Itaju, and Ibitinga, to promote actions for the conservation and preservation of the Jacaré-Pepira River.

environmental conservation or little adherence to requests from specialists of the municipal secretariats. Galvão (2004), Aguiar (2005), Silva (2006), and Agnelli (2006) criticized the lack of specific impact management in several natural tourist attractions in Brotas, such as trails in tourist sites and the Jacaré Pepira River. Francisco Junior (2008) warned about the lack of continuity of the PMTS. For the author, there still lacked an environmental policy to contain problems such as erosion and silting of rivers and springs.

These studies highlight the work of the Non-Governmental Organization Movimento Rio Vivo, created in 1992, according to the history of its blog⁴. Its founding members, among them the author above, gave rise to the first tourist agency in the municipality, Mata Dentro, and articulated social agents, institutions, and initiatives that consolidated Brotas as a pioneering example of adventure leisure activities. However, the necessary advances lacking until the first decade of the 2000s seem to have not yet been stabilized to satisfaction. Although some of the policies indicated by Ribeiro (2012) as planned but not operative, were implemented after the completion of his study, the Jacaré Pepira River has been facing significant drought consequences and silting in the last three years, as demonstrated by digital public complaints and face-to-face actions of social movements of leisure workers.

With the change of members to other municipalities, the activities of the Movimento Rio Vivo decreased. Years later, the Civil Society Organization of Public Interest, the Instituto Astral, was created on June 7th, 2021, related to the Alaya agency, which purchased Mata Dentro and has complemented previous initiatives. Following the developments in the contexts of the antecedent research, we note that, especially from 2020, the tone of the posts of stabilizing Brotas as a pioneering example of

⁴ <https://movimentoriovivo.blogspot.com/p/historico.html>

containment of predatory agribusiness through tourism, sports, and leisure once again turned to leisure workers and environmentalists from different areas of activity in a struggle to ensure socio-environmental health and landscape maintenance. Thus, this article aimed to problematize the performance of adventure leisure workers, specifically in rafting, in the circumstance of increased environmental impact on the Jacaré Pepira River and the imminent modification of its landscape and the urgent need to expand education and environmental conservation to maintain their craft.

Method

This is a qualitative multi-technique, anthropologically inspired research characterized as a return to the field of two previous studies from the perception of its transformation. For an update on the most recent situation of the site and in an interdisciplinary effort to verify the impressions of social agents who had been announcing these transformations in digital social networks with scientific production, in addition to the resumption of virtual interaction with volunteers from the research previously conducted, we searched for bibliographic references with a time frame beginning on 2015, the year in which we had finished the bibliographic survey of previous projects and completed a joint publication that triangulated the data of the two surveys we had conducted separately.

We then did a specific search in the Unicamp databases on the local field object of the study. This university's Library System provides the 'Integrated Search' EBSCO *Discovery Service*, which integrates subscribed and open content. We also searched Scielo for the keywords: "Brotas/SP" and "lazer"; "Brotas/SP" and "meio ambiente"; "Brotas/SP" and "turismo sustentável"; "Brotas/SP" and "Rio Jacaré Pepira". Given the few results, we expanded to "Brotas/SP" and "planejamento ambiental"; "Brotas/SP"

and "recursos hídricos"; "Brotas/SP and "demanda hídrica"; "Brotas/SP" and "paisagem". Still, little was found. The studies related to this survey, using interdisciplinary, understandable language, are presented in the discussion.

The search for data in digital media was based on publications made by leisure professionals and related social agents regarding the region's environmental impacts. Consequently, their performance has suffered, as evidenced by their posts on online social networks. Its seizure followed the principles of documentary analysis (CELLARD, 2012). Monitoring the virtual mobilizations and the interaction with the authors of the posts to verify and detail data were based on assumptions of virtual ethnography (HINE, 2000) and/or netnography (KOZINETTS, 2010).

Additionally, we conducted two face-to-face ethnographic visits from April 15th to 17th, 2023, and February 23rd to 26th, 2024, for direct and participant observation in zip-lining, rafting, visit to Parque dos Saltos, two waterfalls, and face-to-face conversations with individuals involved in the posts regarding the changes in the landscape of the Jacaré Pepira River and its consequences for outdoor leisure and adventure, recorded in a field notebook. We talked with members of the Municipal Secretariat of the Environment, the Municipal Secretariat of Tourism, the Municipal Council for the Defense of the Environment (Comdema), the Jacaré River Committee, created in 2022 as a response to the first protests of this phase, and six adventure tourism drivers among the most active in the manifestations, totaling ten direct interlocutors.

The research was explained to those involved in the posts, with whom we interacted to better understand, measure, and deepen the data, who consented that they be replicated here. They became volunteers of interaction in the face-to-face field. They did not demand anonymity, although offered since they view themselves as leaders of

the movement whose positions are public and to be replicated. This ethnographic research follows the assumptions of the Code of Ethics of the Anthropologist, created in the Management of 1986/1988 and amended in the Management of 2011/2012, which does not recommend the need for processing in the Ethics Committee. Open posts on public profiles were analyzed, considering that their authors consented to be exposed when posting them.

Results and Discussion

Brotas is a municipality in the countryside of São Paulo, located in the state's central region. It is called and publicized as a “national capital”, no longer “of adventure sport”, but “of adventure tourism”, as problematized in Bandeira and Soutto Mayor (2021). This added more recently to the catchphrase: “Always a new emotion”, as in the Facebook profile of the current Municipal Secretariat of Tourism, “Tourism in Brotas” signals that it is a well-known destination for visitors and seeks to remain interesting and diversify its attributes. On February 15th, 2024, the profile published:

Brotas is the national capital of adventure tourism. As we say around here, it's always a new emotion. Whether on the trails, waterfalls, or in the flavors of our restaurants and the incomparable quality of the craft beers of the beer route, there is no shortage of reasons to enjoy our tourist attractions (our translation).⁵

Martins and Madureira (2019), in “Do “buraco” ao atrativo turístico: uma sociologia da ressignificação do rural”, corroborate the importance of the municipality for the ecotourism sector and the adventure niche for the municipality, composing its nickname:

It is impossible not to remember Brotas when (sic) we entered the ecotourism segment (São Paulo, n.d., p. 16, our translation). This is how the publication *Turismo em São Paulo*, edited by the partnership Embratur and the

⁵<https://www.facebook.com/turismobrotas/posts/pfbid02Yfo33eN95dTgjhREyVBCjvcehtAAHLDjGD53xkYYCi8TxzrJ2AKFwCEWe9X2PYLcl>).

government of the state of São Paulo, presents the municipality of Brotas. Also called the Brazilian capital of adventure tourism (p. 329, our translation).

There are 23,898 inhabitants in the municipality, a predominantly urban population (IBGE, 2022). However, the distribution of inhabitants by the total perimeter demonstrates that a large rural area in the municipality received the status of a tourist resort. Municipalities that present: "conditions of leisure, recreation, natural and cultural resources [...] can receive specific financial contributions to encourage tourism (SÃO PAULO, 1977, our translation). In Brotas, among the activities categorized by the public power, the most notorious, in the context called adventure, of physical challenges turned into walks are rafting, *bóia-cross*, zipline, tree climbing, rappelling in waterfalls, and canyoning; along with the previously known components of ecotourism: trails, visitation to waterfalls and springs, and wild animal observation (Brotas, 2024). Martins and Madureira (2019) state that the:

elective affinity between professionalization of adventure tourism, environmental issue, and discursive resignification of the rural was responsible for an important movement of transformation of the location between 1990 and the first decade of the twenty-first century. The specific theme to be discussed in this case will be the creation of an "object of nature" that has come to characterize the rural in the municipality – waterfalls, previously stigmatized as "holes" and later transformed into environmental attractions endowed with economic value (p. 327, our translation).

The referenced study analyzes the social representations of the local landscape (waterfalls and rapids, in particular) and the resignification of the rural landscape in terms of the agency of practices, allowing the economic appreciation of natural attributes that made places previously feared and/or of discarding, such as waterfalls were thought of, into places of visitation and appreciation. However, we found that this new meaning is not absolute and the old uses and meanings of the disputed natural waters still threaten the landscape, the health of the basin, and the leisure in its environment.

According to data from the Brotas Tourism Secretariat, published in an official Facebook profile: tourism is the second economic activity of the municipality. The first would be the sugarcane agroindustry. However, according to this post, Brotense tourism offers the largest number of adventure activities in the country and the municipality received four hundred and fifty thousand tourists in 2022.⁶ Despite the significant numbers presented in the post regarding the collection of visitation *vouchers*, the contemporary environmental situation seems to be the most critical in the recent history of adventure leisure in Brotas as a field of professional activity and guarantee of natural leisure spaces and environmental health for the population in the long term.

The *vouchers* issued by the city hall were established by law, elaborated in a debate on control of visitation load per attraction per day, which Ribeiro (2012) had not yet found implemented. But the aforementioned post presents data from 2016 emphasizing the collection control allowed by the implementation of the voucher. In the publication of the secretariat of tourism, on February 21st, 2024, graphs show that recent years surpass previous years in revenue. But the scenario does not seem so positive when we analyze posts from the adventure handymen. Sequential complaints highlight the increasing silting of the Jacaré Pepira River, with a substantial change in the landscape: the appearance of sandy islands in the rafting route and lower water flow, which makes the boats lean more against the stones and slows down navigation.

The adventure leisure drivers with whom we maintained research contact invited us to see the differences in the landscape from when we did the previous surveys that had concentrated fieldwork between 2010 and 2011. As we navigated with them, they pointed out a banana producer who, even with formal authorization, is signaled as someone who collects water directly from the river in excess, and mentioned a

⁶<https://www.facebook.com/turismobrotas/posts/pfbid023oGxW91nPWQek26vnkW9Qo5DTWK2P7fvGhK7zx9jvxYKAGJgDyefHdYQGVAvunZel>

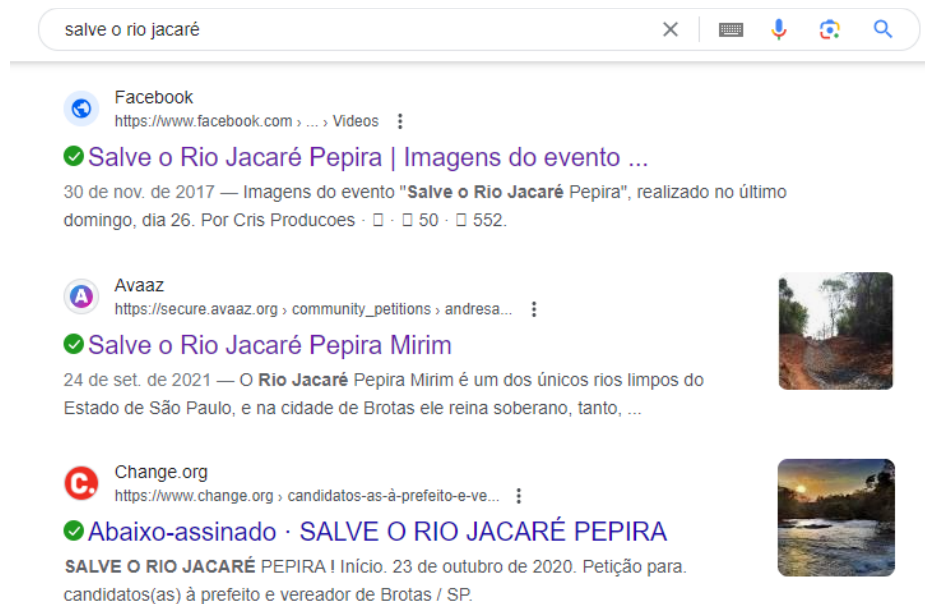
eucalyptus and sugarcane producer who use a technical divergence in state and municipal environmental legislation on contour lines and elect the one that promotes greater soil erosion than the previous management of these industries. In addition to detailing how orange and coffee production were significantly reduced and were being sold to a cane production conglomerate. This indicates the aggravation of environmental crises.

The adventure workers present in the zipline in which we went to conduct observant participation to talk to drivers of vertical techniques, were among older ones, formed in the first phase of implementation of tourism in the municipality. They pointed out the movement of the clouds in the sky and explained to us how the rains have formed but not fallen where suitable for replenishing the Jacaré Pepira River, and that when the rain arrives, it is extremely concentrated in a short period of time causing landslides, flooding, and accentuating erosion. As reported by newspaper reports, in 2022, the New Year's Eve rain brought down seven bridges, and in 2024, a 30-year-old woman died carried away by the flood, and sidewalks, asphalt, and pipes were torn off⁷.

Ambiguously, in contrast to the floods and their disasters, adventure leisure workers stressed that they fear that 2024 will be the first year in the history of Brotas rafting in which there is such a dry season that it is impossible to offer the activity. If the situation analyzed by Bandeira and Ribeiro (2015) concerning the lack of signed work book, seasonality, and low remuneration gave rise to mobilizations about the lack of stability in professional performance, with the recent concern about the interruption of white water operations, the scenario is even more serious, becoming notorious with the creation of a social movement and Facebook profile "Salve o Rio Jacaré Pepira" and *online* petitions:

⁷ <https://globoplay.globo.com/v/12423995/>

Figure 1: Different online petitions for rescuing the Jacaré Pepira River use landscape images in their dissemination



Source:https://www.google.com/search?q=salve+o+rio+jacare&oq=salve+o+rio+jacare&gs_lcrp=EgZjaHJvbWUqBggAEEUYOzIGCAAQRrg7MgYIARBFGEAyBggCECMYJzIKCAMQABiABBiiBNIBCDg1NDNqMGo3qAIAAsAIA&sourceid=chrome&ie=UTF-8

It should be noted that images of landscapes appear in the disclosure of the petitions: in the oldest, "Salve o Rio Jacaré Pepira" (Change.org) of 2020, an full image, for the commitment of candidates for mayor and councilor for the 2021-2024 mandate to the cause, created by the Instituto Astral; and in the one created in 2021, "Salve o Rio Jacaré Pepira Mirim" (AVAAZ), an already impacted landscape, which states that the Jacaré Pepira is one of the last clean rivers in the state of São Paulo.

The Facebook profile "SOS Jacaré Pepira", created in February 2023, also uses images contrasting the famous photos of the landscapes of the municipality, with the impacts noted in everyday life.

Figure 2: Facebook profile of the "S.O.S Jacaré Pepira: nosso rio pede socorro" movement



Source: <https://www.facebook.com/profile.php?id=100090813215965>

These three initiatives concern us specifically since they have the participation and dissemination of professionals and practitioners of adventure leisure. Many interlocutors of this research reinforce that maintaining the health of the Jacaré-Pepira River does not depend only on the municipality of Brotas and have listed some concerns with situations in other municipalities, such as São Pedro. As reported in the local press, Brotas triggered the Public Prosecution Service against the water collection of the neighboring municipality⁸. It was reported by a member of the Movimento Rio Vivo, in a radio program in the municipality, recorded and shared by Facebook⁹, that the fact may be related to the weakening of the intermunicipal consortium for basin protection created in the 1980s. But the volunteers of this research also reported that Brotas presented insufficient environmental and fiscal inspectors of the River Committee at the

⁸ https://g1.globo.com/sp/piracicaba-regiao/noticia/2020/11/19/apos-brotas-acionar-mp-dae-autoriza-que-sao-pedro-retire-agua-do-rio-jacare-pepira.ghtml?fbclid=IwZXh0bgNhZW0CMTEAAR2Hp1ijbv70s1VfB3TPSRlaOv1sjDEF9-8XK4lHA8XLf9EoGECJC1asQc_aem_AV6GMZFILxGI5g5dgtAcNzZjU509UioRLLWqiyleGbPjPJF10pI2iII18fXGB6cI7T_9ZRJ_Y33eNT2WVCFD5LKf

⁹ <https://www.facebook.com/paulosergio.bertatosilveira/videos/624753996268231>

municipal level and that the fluvimetric station was out of operation from 2017 until 2022, which meant that necessary periodic studies were not conducted.

Trevisan, Moschini, and Guerrero (2017) warned that a landscape is altered according to the relationship maintained between society and nature, and that it can be composed by the connection or fragmentation between its elements. According to the authors, “the balance between environment and development is the primary strategy to ensure ecological sustainability and it is essential to consider human needs in relation to the support capacity of ecosystems (Trevisan, Moschine e Guerrero, 2017, p. 207, our translation)” to maintain landscapes.

The authors' study on Brotas/SP analyzed the soil issues of the municipality and found a growth in vegetation areas and a decrease in areas for agricultural activities between 1988 and 2016, which are subsequent to the creation of the first organized movements in defense of the Jacaré-Pepira River and the implementation of leisure services in natural environments. The results showed that, although the vegetation remnants have managed to be preserved or conserved throughout these years, better planning was necessary to minimize the impacts of economic activities developed in Brotas, both for tourism and the agro-industrial and agricultural sector.

Guerrero *et al.* (2018) mapped the aptitude for ecotourism in Brotas, SP. The methodology, supported by conservationist bias, raised the possibilities and restrictions of the municipality for tourist activities. The study confirmed the great ecotourism potential in the municipality, but stressed that the increase in the number of tourist activities in the region “must be conducted under the tutelage of studies that contemplate the environmental, social, and economic potentialities and restrictions of the municipality, such as fauna and flora surveys, environmental fragility, and

susceptibility to erosion, among others" (GUERRERO *et al.*, 2018, p. 154, our translation).

The authors emphasize that the landscape potential of the municipality has changed the local territorial dynamics, but more adequate planning and other "specific public policies that contemplate the preservation of the municipality must be implemented" (GUERRERO *et al.*, 2018, p. 154, our translation). However, the current situation signals a hiatus in the necessary improvements in regulation between 2018 and 2024, pointed out by Trevisan, Moshine, and Guerrero (2017) and Guerrero *et al.* (2018). Evidence is the "Salve o Rio Jacaré Pepira" petition with 11,699 signatures, initiated by the Instituto Astral in October 2020. The text of which is as follows:

The signatories of this petition are residents of Brotas who understand that the Jacaré Pepira River unites all generations of Brotenses from the creation of the municipality at its banks until today. The signatories of this petition understand that the river is vital for Brotas. Without it, Brotas would not have existed. Brotas would not survive its drought. The signatories of this petition note that the river has never been given its due value, with residents and successive governments believing that it is eternal. It became clear that it is not, given the decrease in the river flow of the last twenty years and the current dispute for water. If we do not take action, we will watch the Jacaré Pepira River turn into a stream, a creek, and finally dry up over the years. The signatories of this petition know that the river is the primary vector of economic development of the municipality, the base of support for agribusiness, tourism, and commerce and directly or indirectly responsible for 100% of jobs and tax revenue of the municipality. The signatories of this petition know that the importance of river is not limited to the economic sphere. It is central to the well-being, environment, quality of life, culture, health, and education of all municipality dwellers. Putting the river at the center of the concerns of the public power is to take care of all Brotenses (our translation).¹⁰

The undersigned text corroborates the view of Trevisan, Moschini, and Guerrero (2017) that the importance of popular mobilization and its representation instances and the consolidation of representation spaces should "be a premise of the municipal administration for the formulation, execution, and monitoring of urban development plans, programs, and projects, adapting to the local reality and thus fulfilling its

¹⁰ (<https://www.change.org/p/candidatos-as-%C3%A0-prefeito-e-vereador-de-brotas-sp-salve-o-rio-jacar%C3%A9-pepira>).

objectives, proposing an integrated management between government and civil society” (TREVISAN, MOSCHINI e GUERRERO, 2017, p. 215, our translation). It is worth mentioning that these authors defend the development of the municipality of Brotas/SP considering economic growth with the conservation of ecosystems.

The other half of the petition text proposes to public managers in detail how to do so in ten steps:

The signatories of this petition ask that all candidates for mayor, all candidates for vice mayor, and all candidates for councilor for the 2021-2024 mandate put the Jacaré River as a central axis in their executive and legislative government programs and commit to urgently implement the following ten measures: 1. Apply and supervise compliance with Law No. 12,651/2012, regarding Permanent Preservation Areas (PPA), with the environmental function of preserving water resources, landscape, geological stability, biodiversity, fauna and flora gene flow, protect the soil, and ensure the well-being of human populations. 2. Coordinate, together with the private initiative, associations, and NGOs, a project for recovering and protecting all springs in the municipality. 3. Include environmental education as stipulated by the Ministry of Education in the National Curriculum Parameters (PCN) from 1997 in the curriculum of all schools in the municipality, adequately qualifying teachers for this pedagogical booklet. 4. Provide the population with a clean, free, safe, and educational Parque dos Saltos so that the visit strengthens the bond of the population with the River. Always keep in mind that the park is also home to other species. 5. Upgrade, along with the DAEE, the Q7-10, which allows the disproportionate collection of the current water capacity of the Jacaré River and its tributaries. 6. Stop all clandestine water collections and monitor legal collections within the Tietê-Jacaré basin (CBH-TJ). 7. Temporarily suspend new water collection grants at CBH-TJ until Q7-10 is updated and a flow study is conducted. 8. Contract an integral technical study of all the water properties of the Jacaré River and the flows necessary for maintaining the practice of tourist activities. 9. Implement and supervise a basic sanitation system in the rural areas of the municipality. 10. Scale sewage treatment to have 100% treated sewage in the municipality (our translation).¹¹

In addition to this petition, the Instituto Astral also produced, in 2021, a short film called "A voz do rio", whose dissemination is also found on the Facebook of the Brotas City Hall¹². The script praises the importance of the landscape and the health of the Jacaré River waters for its population, highlighting a character who claims to have changed her life and that of her family, previously a harvest worker, through work with

¹¹<https://www.change.org/p/candidatos-as-%C3%A0-prefeito-e-vereador-de-brotas-sp-salve-o-rio-jacar%C3%A9-pepira>.

¹² <https://www.facebook.com/watch/?v=305369794631295>

tourism. These data corroborate the findings of Bandeira and Ribeiro (2015), but add a question. Tourism, beginning in the 1990s with the Movimento Rio Vivo, reaches 30 years. A long cycle of work of the first generation "guides" and the aging of these adventure leisure workers makes them report significant changes in the natural dynamics of the region: climate change and environmental impacts that affect their working conditions.

On August 9th, 2022, adventure tourism drivers, who are also or were rafting athletes of different generations, released mobilization requesting action from Councilman and with the municipal council:

Figure 3: Disclosure of a meeting of drivers and adventure athletes with a councilor of Brotas to demand care for the river



Source: <https://www.facebook.com/photo/?fbid=2404889186316830&set=a.733456280126804>

On the same date, images of the Parque dos Saltos with the accumulation of filth and silting were released by another adventure tourism driver, demanding the public power for management. Examples of what Martins and Madureira (2019) called “management of interpersonal relationships and types of struggle and control actors can produce over the natural environment” (p. 329, our translation). Those who work in direct contact with the river, having their body touched by its waters and sometimes immersed in them, constantly traveling its current lines, feel the urgency to prevent actions that put their health at risk more acutely.

The Parque dos Saltos is also the subject of concern of Brotenses and residents who told us that there have been rumors about a councilor considering proposing that it be closed and access charged. In a context in which access to waterfalls is increasingly expensive (R\$50 the cheapest in 2024), the local low-income resident is left without the option of a free and central park, accessible by public transport.

Between one petition and another, on August 13th, 2022, the self-described rafting drivers of Brotas published an open letter to the Jacaré River:

We love the Jacaré River. We know each curve, each stone, each wave that forms, the ebbs and flows are part of our day to day. Our trained eyes know how to recognize the water line where it is safe to pass. We have loved and lived inside the Jacaré River every day of the year, for years. And that's why we write. In our veins runs the water of the Jacaré River, the same water that supplies our homes. It is through this river that agribusiness and tourism could develop in the municipality and that Brotas can be an example of harmonious coexistence between preservation and economic development. The Jacaré River is the lifeblood of this municipality and Brotas certainly would not survive its drought. We who are inside every day have seen the rapid decrease in the river flow. Year after year we noticed boats getting stuck where they used to pass with tranquility. Year by year, we notice the river no longer holding rainwater. Year by year, we notice the huge sandbanks accumulating, forming islands where there were rapids before. The erosions where there was forest, the plantations where there were springs. It is easy to imagine that we will soon witness the transformation of the river into a stream, a creek, and finally a memory, like so many other rivers in Brazil. We appeal here that the highest priority be given in all instances of this municipality to save the Jacaré River basin. The problems that plague us are diverse and complex, we are aware. But we also know that when men and women come together, they can move mountains and... save rivers. We cannot sit idly by watching our Jacaré die. It is urgent, it is important, and it depends on us. We, rafting drivers of Brotas, make ourselves available and call for maximum human and financial resources to

be dedicated to stop the urgent problems that plague our river and that long-term planning and actions are taken to ensure quantity and quality of water in the river for all future Brotense generations. As spokespersons, we repeat to you what we have been hearing every day from the River: A Cry for Help. May the municipality succeed in this endeavor. Amen (our translation).¹³

The publication is commented by one of the pioneers in the environmental movement that culminated in the first adventure tourism agency of Brotas and author of research on the subject:

Very good! I think everyone should be aware and seek the other sectors and NGOs in the community, such as Rio Vivo and Apagib to see the work developed in the river basin, volunteer to help these NGOs, and promote the renewed environmental struggle with new and old actors, increasingly involving the population in the awareness (sic) of maintaining the full life of the river and its environmental services to the municipality. Together and consciously (sic), we will make a difference against the silent death of the river and its chronically silted springs as an autoimmune disease, knowing that the cure is in the return of balance and in the reduction of the impacts resulting from human and unsustainable economic actions. We are responsible for the changes! (our translation)¹⁴

APAGIB would be the Association of Agroindustrial Producers of Brotas/SP, created in 2003 to stimulate sustainable production and regional consumption of food in Brotas. The institution had also prepared a project to articulate agroecological production for the collective sale, dividing freight costs with the state capital. However, even though he also mobilized the creation of a movie¹⁵, according to the Instagram profile, the project had to be closed on February 11th, 2022, due to low demand¹⁶.

Although we did not find a website and the blog is outdated, the Movimento Rio Vivo, much cited in the pioneer studies, seems to be using its Facebook profile for complaints and mobilization, in addition to referencing the SOS Rio Jacaré profile. On March 15, 2023, concerning soil runoff from landowner production:

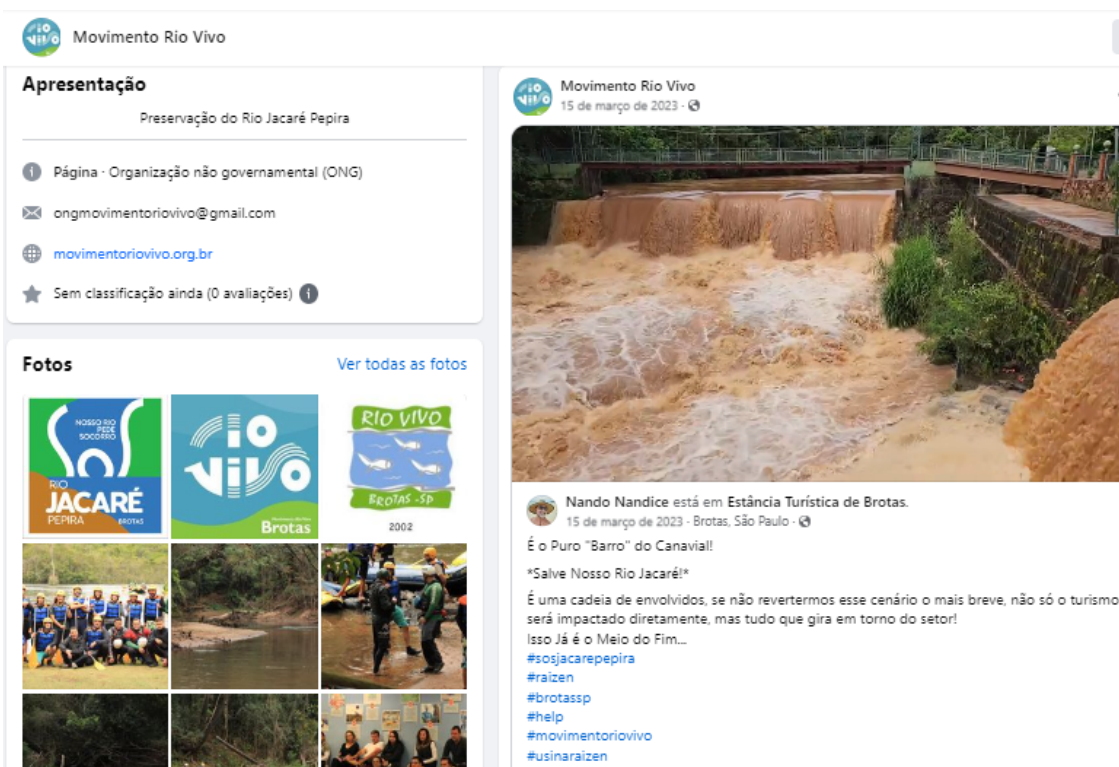
¹³ <https://www.facebook.com/photo/?fbid=2408105012661914&set=pcb.2408105035995245>

¹⁴ <https://www.facebook.com/photo/?fbid=10222875541889597&set=a.10201872302261733>

¹⁵ <https://ozprodutora.com.br/project/case-apagib/#&gid=1&pid=1>

¹⁶ <https://www.instagram.com/p/CZ1CbBvOUnl/>

Figure 4: Profile Movimento Rio Vivo and the use of photos of impacted landscapes to carry out reports.



Source: <https://www.facebook.com/movimentoriovivo/>

Approximately one month before this publication, on February 20th, 2023, a block of militants in favor of the health of the Jacaré Pepira River paraded in mourning at the Brotas street carnival, carrying a symbolic coffin to the river, corroborating the virtual appeals analyzed. Some interlocutors in the field stated that although the municipality already had a lawsuit against the buyer of the former Paraíso plant, the Raízen company, it only responded publicly after a succession of protests.

According to our interlocutors, municipal council representatives replied that they had already sought to understand the situation and how to negotiate technical changes with Raízen through formal and official channels. However, the slowness of this bureaucracy means that only after so many years of reports of landscape transformation is a more effective mobilization seen to mitigate the neglect and negligence of the public power for so many years, which have put the reputation of

Brotas for tourism at risk. This reputation has been taken care of by the mobilization of leisure workers.

Photos of the protest were published on the official Facebook profile of the municipal administration, with a text in support of the movement on February 20th, 2023:

Figure 5: Photos of protest conducted by drivers and adventure athletes in mourning and banners calling for the mobilization of other citizens, shared by them on digital social networks



Source: <https://www.facebook.com/GovernoBrotasNossoMaiorValor/posts/pfbid01Rkf1PwyfRgjKVfybuR2brVmKsir6u3D2gWiE7Q7ds531tqdSA8cH4pBr77rRgQl>

Among the participants of the mobilization in the photos, we recognize tourism, sports, and leisure workers trained in four different decades and who play a leading role in the resistance of sustainable work to predatory agribusiness, intensified, according to them, by the arrival of the multinational to the municipality. However, some of them claim that although there are around 100 participants in the *WhatsApp* group created for communications between adventure workers to mobilize in the movement in favor of the Jacaré-Pepira River, only around 15 appear in other face-to-face actions to demand authorities for measures. This is a fact that some attribute to the last generations of adventure tourism drivers having focused more on also remaining competitive athletes,

which diverted time from environmental education to high performance. However, two of the most active leaders of the movement are former athletes of different generations. They also problematize that many drivers have family members who work at the plant and cannot publicly stand against it. The caption of the post reads:

Mayor Leandro Corrêa and the Brotas Municipal Administration team, Our Greatest Value vehemently support the protest of rafting drivers in defense of the Jacaré Pepira River and agree that everyone should unite in defense of this our greatest natural asset. For some time, the Brotense Executive Branch has been proposing discussions and inviting our entire community to participate in actions in defense and preservation of our Jacaré River. For example, we have already held events in which we draw attention to the rational use of water, preservation of riparian forest and river flow, and use of pesticides, among other issues. Everything has been reported to the Prosecutor's office so that measures can be adopted. In parallel, we began a hydrological study in 2022 to analyze the availability of river water for multiple functions, considering that it is a source of life and work for our community, especially for tourism activities. We also highlight the relevance of this study for our agriculture, which requires us to treat this important water resource with commitment and seriousness, which should be our inexhaustible source of life, health, and sustainable development. With the full support of this administration, a committee was created with the autonomy to work and propose actions to benefit the Jacaré River. Currently, the Rio Jacaré Committee is preparing the work plan with concrete short-, medium-, and long-term actions, including the presence of representatives of the drivers' sector. We express our concern in the same sense as the Rafting drivers, who frequent the river and have and are aware of its situation, and we defend the legitimacy of the protest with the expectation and hope that more Brotenses join the cause to work in the preservation actions and fight those who harm (sic) our dear and invaluable Jacaré Pepirav River (our translation).¹⁷

It is worth mentioning that the Municipal Law, the Master Plan, and several legislations of the municipality of Brotas provide for actions by the public power to develop tourism sustainably in the municipality. In the same sense, they foresee planning and analysis of tourism based on studies conducted for this purpose by the environmental interpretation center of the municipality and in partnerships with universities in the region, as performed in the 1990s. Such documents also emphasize that the environmental heritage of Brotas (ecosystems, natural landscape, hydrography,

¹⁷<https://www.facebook.com/GovernoBrotasNossoMaiorValor/posts/pfbid01Rkf1PwyfRgjKVfybuR2brVmKsir6u3D2gWiE7Q7ds531tqdSA8cH4pBr77rRgQl>.

and cuestras) are objects of protection, monitoring, and permanent supervision by the Municipal Government (RIBEIRO, 2012).

However, questioning the effectiveness of these official documents, some comments on the post also mentioned the lack of commitment of adventure tourism companies regarding the integrity of the river, referring to the possibility of different behaviors between entrepreneurs and manual adventure workers and divergences of positioning between peers of each category. The controversy in the interpretation of the facts by the Brotenses can be seen debated in the comments of the posts:

Figure 6: Debate among non-agent citizens of the field of adventure in the comments to posts on the river issue.



Source:

<https://www.facebook.com/GovernoBrotasNossoMaiorValor/posts/pfbid01Rkf1PwyfRgjKVfybuR2brVmKsir6u3D2gWiE7Q7ds531tqdSA8cH4pBr77rRgQl>

However, as we will demonstrate below, a greater number of comments in another section of the posts point more vehemently to a company outside the adventure tourism business as the primary cause of the impacts: Raízen, which makes up the Shell Group. The company claims to comply with the legislation. Volunteers of this research indicate that technical divergences between regulations may leave a permissive gap in choosing a more erosive method that refers to contour lines.

In our face-to-face interactions, we heard leisure workers say they are killing the Jacaré-Pepira River. A formulation that also occurs in "Tragédia do Povo Krenak pela Morte do Rio Doce/Uatu, no Desastre da Samarco/Vale/BHP" by Fiorott and Zanetti (2017), whose impacts on leisure were analyzed in Bandeira and Borges (2018) and the lack of representation of human health professionals in the mitigation actions problematized in Bandeira and Carvalho (2019). Similarities appear in this case.

In the case of Brotas, on February 22nd, 2023, the current municipal secretary of tourism endorsed the protests and marked the accused companies and the mass media in a post in which he named the suspicious company and cited research data that environmental and leisure workers had been claiming for some time and consider overdue:

Soil management harms the Jacaré-Pepira River, the scene of the most famous rafting in Brazil. Instructors protested, and the Tourism Secretariat expressed concern about the lack of sugarcane cultivation techniques. The Jacaré-Pepira Mirim River holds the title of one of the cleanest rivers in the state of São Paulo, according to reports from CETESB (Environmental Company of the state of São Paulo), asks for help. Protagonist of the economy in Brotas, anchored by tourism and agriculture, the watercourse where thousands of people pass in the activity that makes the municipality a reference in adventure tourism – rafting – faces a period of threat caused by incorrect soil management in properties where sugar cane is grown to supply a plant in the region. Representatives of the Executive Branch and civil society have mobilized in search of answers to solve this problem. The City Hall presents environmental impact studies and triggers the company in an attempt to obtain a response to the urgency of the problem. During the carnival, rafting instructors dressed in black took to the municipality's streets. They marched in silent protest with banners calling for preserving the Jacaré-

Pepira's life. A mass mobilization of society calls for a quick solution to contain debris transported from these sites (our translation).¹⁸

Volunteers of this research indicate that the management of the Jacaré River, based on research, has not been conducted in recent years by the government, despite appeals from competing experts. Arriving at the critical situation, an evaluation was performed after a lot of pressure from civil society. The same post confirms what we were told:

Environmental impact studies confirm the constant erosive process in the bordering properties that has led to a large amount of mud entering the river when it rains, aggravating the risk of silting. The study also shows that the constant floods resulting from the soil management offer the risk of burying the springs of the Jacaré-Pepira River. Neighboring towns that make up the same watershed are also affected. The environmental study concludes that the company responsible for the sugarcane planting area must take urgent measures, starting with constructing contour lines. The technique is a solution to retaining excess rainwater that allows infiltration into the soil. Without this system, the energy of water movement carries the surface to the river course. "It is urgent that drastic action be taken against this practice. Agriculture is an important sector of the Brotas economy, but respect for the environment and the Jacaré River, our primary heritage, is above any economic interest" says Fabio Pontes, Secretary of Tourism of Brotas. The municipal council created a committee in November of last year that brings together public agents, private initiatives, and society, focusing on intensifying actions to combat irregular practices that endanger the preservation of the Jacaré-Pepira Mirim River. Faced with the recurrent carriage of land to the bed coming from this property, the Secretary of Tourism seeks interlocution with the plant with the intention (sic) to warn about the urgent need to execute the containment system on the property. The history of tourism in Brotas, with 30 years as of 2023, is born from the mass mobilization of society in defense of its most significant natural heritage. In 1993, in the face of protests, the municipality's population managed to prevent the installation of a tannery that would severely affect the quality of the waters. When saving the river, it also began tourist activities in the Jacaré-Pepira, still with the *bóia-cross*. Rafting began a short time later and is today a reference of Brotas to the world (our translation).¹⁹

The secretary of tourism marks the publication with the digital interaction resource "hashtag" (#): Raízen, Cosan, Shell, Environmental Police, Ministry of the Environment, Secretariat of Tourism of the state of São Paulo, and the largest television

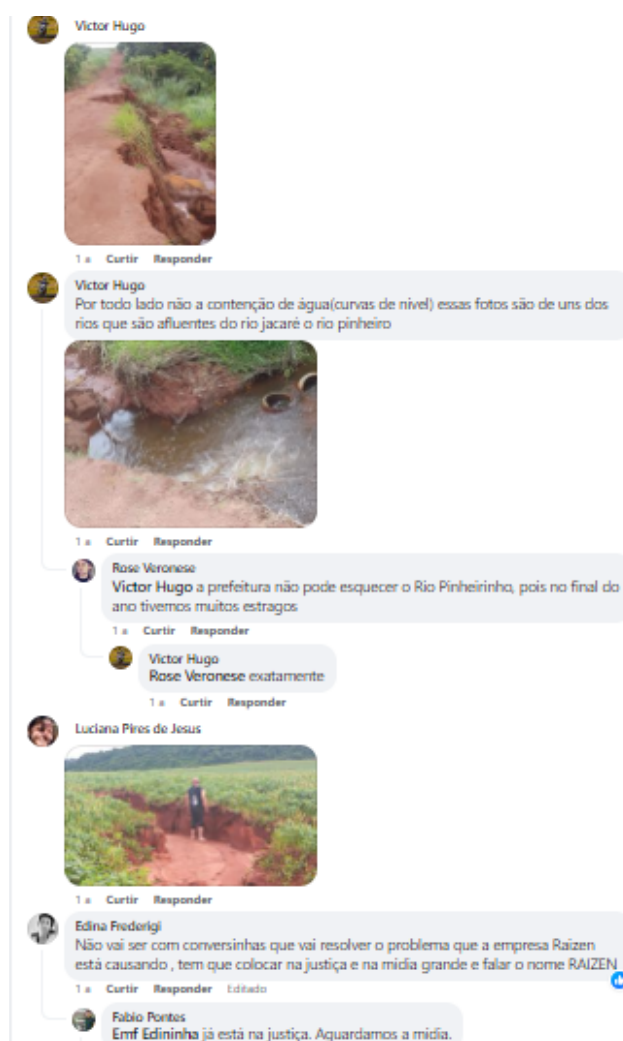
¹⁸<https://www.facebook.com/fabio.pontes.391/posts/pfbid0eGP1qLkBB77E4XjUWYYCsGFZDW1EYBZZQYiL8kjj2s3FeoZV3y49hST71fv42EwDl>.

¹⁹<https://www.facebook.com/fabio.pontes.391/posts/pfbid0eGP1qLkBB77E4XjUWYYCsGFZDW1EYBZZQYiL8kjj2s3FeoZV3y49hST71fv42EwDl>.

channels in the region. The publication also includes photographs of undeniably impacted landscapes.

The appointment of the primary alleged culprit of the critical situation of the landscape in Brotas is reinforced in the comments of the publication, whose different authors also post complementary images of impacted landscapes:

Figure 7: Photos of impacted landscapes shared by citizens in the remarks of reporting posts to legitimize and complement those of protest profiles



Source: <https://www.facebook.com/GovernoBrotasNossoMaiorValor/posts/pfbid01Rkf1PwyfRgjKVfybuR2brVmKsir6u3D2gWiE7Q7ds531tqdSA8cH4pBr77rRgQl>

The interlocutors reinforce the dominant responsibility of Raízen on the significant changes in the landscape of springs and dynamics of the Jacaré River and tributaries. However, the actions from 2020 to 2022 do not seem to be enough to contain the advance of the damage. Two days after our second ethnographic visit, another storm hit the municipality, and images of significant erosion were circulated through digital conversation apps. The indignation of leisure workers lies in the delay in maintenance measures. On March 15th, 2023, the SOS Rio Jacaré page published yet other images of severely eroded landscapes:

Figure 8: Protest profile posts aerial photos of eroded landscapes requesting sharing to help the cause



Source:https://www.facebook.com/permalink.php?story_fbid=pfbid0Eyf5gbmuZ1ncw5NvM9Ae5CNfemf5WQyUphonhFkbS13gnpYRSEdEjHpQmg8BG3q2l&id=100090813215965

On March 2nd, 2023, the Facebook profile "Governo Brotas Nosso Maior Valor", which is defined as " disclosure of administrative acts of the Municipal Government of Estância Turística de Brotas: official Facebook page of the 2021-2024 municipal administration", publishes images of a meeting on the situation of the Jacaré River at the Public Prosecution Service's Office:

One more step was taken regarding the Jacaré River protection actions this Thursday (March 2nd). The Municipal Executive Branch, Councils, and Entities were meeting with the Prosecutor of the District of Brotas, Dr. Cassio Sartori, to present soil management irregularities, which are causing environmental damage to the Jacaré River and tributaries in several regions of the municipality. The meeting was scheduled by Mayor Leandro Corrêa, who represented the Administration, along with Secretaries Fernanda Ragassi (Environment), Luiz Fernando (Agriculture), and Fabio Pontes (Tourism). Paulinho Bertato, representative of the rafting drivers and the Municipal Committee for the defense of the Jacaré River, Rodrigo Freitas from ABROTUR, Vivian da Cunha from COMDEMA, and Lázaro Buzaranho from COMTUR were also present. The meeting agenda included a description of the damage caused to the soil in regions near springs, tributaries, and the Jacaré River and a discussion of the actions that should be taken to protect our greatest environmental heritage. Always attentive and helpful, Dr. Cássio listened carefully to the explanations and must adopt some necessary measures within what the Law determines. Mayor Leandro described all the movements in the municipality to sensitize the population and showed his concern regarding the damage caused in several parts of the rural area of the municipality, where there are points of flooding and a lot of mud, promoting damage up to the river. Leandro Corrêa stated that the municipal administration agrees with all the social protests in defense of the River and made it clear to the Prosecutor that the entire team is available to assist in whatever is necessary so that the protection actions are implemented as soon as possible. #defesadoriojacare #riojacare #preservação (our translation).²⁰

Once again, the representation of adventure tourism guides, conductors, and leisure workers who act on committees and councils is present. Martins and Madureira (2019, our translation), with data from 2012-2013, stated that owners of farms and sites in the location assume that "the hole in the property today makes more profit than the entire farm". Brotas waterfalls have become more than complementary to the income-generating activities of some properties: they have often become the primary activity. But we showed that this was insufficient to prevent the river from being threatened

²⁰<https://www.facebook.com/GovernoBrotasNossoMaiorValor/posts/pfbid0NcVNVjxBZNFuQNb9omYk7c2jtKHYqeN7Cv2jdGhrJRgU27vqJr3FeiW48KobLHvEl>.

again a few years later. In another post, a leisure professional writes about those who rent their land for sugarcane cultivation: "Owners aim for 5 thousand per bushel in the bank, but forget that they lose in soil and nutrients because as soon as the soil runs out of nutrient recovery, the production plant leaves the property to scarcity [...]".

Some government initiatives sought to validate the mobilizations of adventure tourism workers, and a soil management course was promoted on April 26th, 2023, and River Day on November 24th, 2023²¹. However, the increasing frequency of environmental disasters, the regularity of which can be attributed to climate change, is a risk to the landscape and life of all kinds, requiring more continuous and well-structured actions. On our first ethnographic visit, after a significant storm, part of the hiking trail on one of the banks of Parque dos Saltos was blocked by landslides for months. After the second field incursion, the municipality was once more hit by floods and landslides.

While leisure workers are exposing themselves on the front lines of containing the environmental impact and damage to the landscape by predatory agribusiness, some enjoy the river in their work with leisure but do not take care of it. Despite many leisure workers concerned over the river, some fear that public protests will discourage tourists from visiting Brotas, severely decreasing or even eliminating their income, even before the river reaches its limit. It can be said that, in Brotas, working with leisure in tourism and sports in the natural environment was a differential catalyst for significant changes that promote sustainable development, although not to the point of eradicating ways of thinking, living, and producing that challenge and putting it at risk. However, it continues to promote resistance.

²¹ <https://www.facebook.com/photo/?fbid=751758053662139&set=a.628512485986697>

Final Remarks

Among adventure professionals in Brotas, in the context of environmental impact and risk to the landscape, some fear the power of the largest companies accused of the most significant impacts to reverse the lawsuits against them for defamation charges against those who protested and that they would have to compensate these companies with resources they do not have. There are two well-known hesitations from the analysis of crises and controversies involving environmental impacts and landscape destruction: a) the accused company employs some of its informal leisure workers, athletes, and adventure sports practitioners or families, and b) it began sponsoring competitive rafting teams as a way of mitigating the impact, which gives rise to future analysis.

Ambiguously, some leisure workers also fear that publicizing the problem will tarnish the municipality's reputation as a desirable destination and/or that they will become dependent on the mitigation actions announced and initiated by the company. They ask that tourists not stop visiting the municipality and support conservation actions so that their performance does not become economically irrelevant or obsolete. They can continue helping fight for the integrity of the Jacaré Pepira River and socio-environmental health in general.

The profiles of leisure workers and their positions in the problematized circumstance are diverse, which is the theme for another publication at the end of this one. Even if not all, adventure leisure professionals who are sensitive and powerful vigilant agents in registering, publicizing, and mobilizing the population to demand measures from the public authorities make a difference. However, there is an atmosphere of fatigue from the struggle, sadness, and insecurity regarding the health of the environment and the projection of the time of continuity of their craft, which is an

important topic for future research, signaling that these professionals can be collaborators in Open Science. However, as they claim, socio-environmental education and health must be a priority in professional training to consolidate itself.

REFERENCES

AGNELLI, S. A. C. **A Implementação da atividade turística em Brotas – SP: euforia e declínio.** Araraquara. Dissertação (Mestrado em Desenvolvimento Regional e Meio Ambiente) – Centro Universitário de Araraquara, UNIARA, 2006.

AGUIAR, P. H. **Representação da natureza, transformações espaciais e turismo em Brotas (SP).** Campinas, Dissertação (Mestrado em Geografia) – Instituto de Geociências, Universidade Estadual de Campinas, Campinas, 2005.

BAHIA, M. C. **Lazer - Meio Ambiente:** em busca das atitudes vivenciadas nos esportes de aventura. Dissertação (Mestrado em Educação Física) - Programa de Mestrado em Educação Física, Faculdade de Ciências da Saúde, Universidade Metodista de Piracicaba, Piracicaba, 2005.

BANDEIRA, M. **No galejo da remada:** estudo etnográfico sobre a noção de aventura em Brotas, SP. Dissertação de mestrado em Antropologia Social. Universidade Federal de São Carlos, 2012.

BANDEIRA, M. e BORGES, R. O lazer e a lama: o caso da maior cidade afetada pelo derramamento de minério da Samarco/Vale/BHP Billiton. *In: SILVA JUNIOR, Vagner; SILVA, Dirceu Santos. (Orgs.). Políticas Públicas de Lazer e Esporte.* 1. ed. Campinas: Mercado de letras, 2018, v. 1. p. 189-216.

BANDEIRA, M. e CARVALHO, P. **O corpo e o metal:** ensaio etnográfico entre barragens de rejeito de minério. CONGRESSO BRASILEIRO DE CIÊNCIAS DO ESPORTE, 21, 2019. **Anais...** Disponível em: <http://congressos.cbce.org.br/index.php/conbrace2019/8conice/paper/viewFile/13832/647>. Acesso em: 13 Mar. 2024.

BANDEIRA, M. M.; RIBEIRO, O. C. F. Sobre os Profissionais da Aventura: problemas da atuação na interface esporte e turismo. **Licere - Revista do Programa de Pós-graduação Interdisciplinar em Estudos Do Lazer**, v.18, n.3, p.116–157, 2015. Disponível em: <https://periodicos.ufmg.br/index.php/licere/article/view/1131/825>. Acesso: 20. Maio. 2024. DOI: <https://doi.org/10.35699/1981-3171.2015.1131>

BANDEIRA, M. e SOUTTO MAYOR, S. A Construção da capital brasileira da aventura: transformação da cidade de brotas em destino turístico-esportivo nas décadas de 1980 e 1990. **Caminhos da História**, v.26, n. 1, jan./jun, 2021. <https://doi.org/10.38049/issn.2317-0875v26n1p.128-147>

BROTAS. Secretaria Municipal de Turismo. **Atividades turísticas oferecidas em Brotas**. Disponível em: <https://www.brotas.sp.gov.br/secretarias/turismo>. Acesso em: 10 Mar. 2024.

CARNICELLI FILHO, Sandro; SCHWARTZ, Gisele Maria. Guias de Rafting: perfil e emoções. **Lécturas educación física y deportes, Buenos Aires**, v. 10, n. 85, p. 1-2, 2005.

CELLARD, A. A análise documental. In: POUPART, J. DESLAURIERS, J.P., GROULX, L. LAPERRIÈRE, A., MAYER, R. PIRES, A. **A pesquisa qualitativa: enfoques epistemológicos e metodológicos**. Petrópolis: Editora Vozes, 2012.

FIOROTT, T. H.; ZANETI, I. C B. B. Tragédia do Povo Krenak pela Morte do Rio Doce / Uatu, no Desastre da Samarco / Vale/ BHP, Brasil. **Fronteiras: Journal of Social, Technological and Environmental Science**, [S.l.], v. 6, p. 127. Disponível em: <https://revistas.unievangelica.edu.br/index.php/fronteiras/article/view/2444> 2017. Acesso: 20. Maio. 2024. DOI: <https://doi.org/10.21664/2238-8869.2017v6i2.p127-146>

FRANCISCO JUNIOR, J. C. **Construção de cenários e formulação de estratégias para o turismo de Brotas/SP**. São Paulo. Trabalho de Conclusão de Curso (Especialização em Economia e Negócios do Turismo) – Fundação Instituto de Pesquisa Econômicas. São Paulo, 2008.

GALVÃO, J. **O processo de planejamento do turismo de natureza: reflexões sobre a construção da política municipal de desenvolvimento sustentável do turismo em Brotas**. Rio Claro. Dissertação (Mestrado em Geografia) – IGCE, UNESP, 2004.

GUERRERO, J. V. R.; MOSCHINI, L. E.; AUGUSTO de L. J.; TOSSANI de M. N. A. Mapeamento da aptidão ao ecoturismo como instrumento de planejamento territorial sustentável: estudo de caso no município de Brotas, SP, **ACTA Geográfica**, Boa Vista, v. 12, n. 28, jan./abr. 2018. Disponível em: <https://revista.ufr.br/actageo/article/view/4727>. Acesso em: 15 Mar 2024.

HINE, C. **Virtual Ethnography**. London: SAGE Publications Ltd, 2000.

IBGE. 2022. Disponível em: <https://cidades.ibge.gov.br/brasil/sp/brotas/panorama>. Acesso em 01.Mar. 2023.

KOZINETTS, R. **Netnography**. John Wiley & Sons, Inc., 2010.

MARTINS, R. e MADUREIRA, G. Do “buraco” ao atrativo turístico: uma sociologia da resignificação do rural. **Revista de Economia e Sociologia Rural**, v.57, n.2, p.326-338, 2019. Disponível em: <https://www.scielo.br/j/resr/a/sXygWZ5ZfdG4QjwT5SMTfBz/?lang=pt>. Acesso em 15 Mar 2024.

RIBEIRO, O. C. F. **Um estudo das políticas públicas de lazer de Brotas/SP**. Tese (Doutorado em Educação Física). Faculdade de Educação Física, Universidade Estadual de Campinas, Campinas, 2012.

SÃO PAULO. Assembleia Legislativa. **Lei n.1457 de 11 de novembro de 1977.** Altera a redação do artigo 2.º da Lei n. 10.426, de 08/12/1971, que estabelece requisitos mínimos para a criação de estâncias. [São Paulo, SP]: Assembleia Legislativa, 1977. Disponível em: <https://www.al.sp.gov.br/repositorio/legislacao/lei/1977/original-lei-1457-11.11.1977.html> Acesso em: 13 Mar. 2024.

SILVA, C. A. **Análise sistêmica, turismo de natureza e planejamento ambiental de Brotas:** proposta metodológica. Campinas. Tese (Doutorado em Geografia) – Instituto de Geociências, Universidade Estadual de Campinas, 2006.

SOUSA, F. **O imaginário no rafting:** uma busca pelos sentidos da aventura, do risco e da vertigem. Dissertação de mestrado em Educação Física. Universidade Gama Filho, 2004.

TREVISAN, D. P; MOSCHINI, L. E; GUERRERO, J. V. R. Dinâmica temporal do uso e cobertura da terra do município de Brotas/SP entre os anos de 1988 e 2016. Fronteiras: **Journal of Social, Technological and Environmental Science**.v.6, n.4, p.204-219, 2017.Edição especial. Disponível em:<http://dx.doi.org/10.21664/2238-8869.2017v6i4.p204-219>. Acesso em: 10 Mar. 2024.

Authors' Addresses:

Marília Martins Bandeira
Email address: marilia.bandeira@ufrgs.br

Olivia Cristina Ferreira Ribeiro
Email address: olivia@fef.unicamp.br