

POTENTIAL OF ADVENTURE TOURISM IN THE MUNICIPALITY OF QUIXERAMOBIM – BRAZIL

POTENCIAL DO TURISMO DE AVENTURA NO MUNICÍPIO DE QUIXERAMOBIM - BRASIL

POTENCIAL DEL TURISMO DE AVENTURA EN EL MUNICIPIO DE QUIXERAMOBIM - BRASIL

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ABSTRACT

Quixeramobim is part of the territory of the proposed Sertão Monumental Geopark, along with the municipality of Quixadá. In the location, it was identified considerable potentials that can be made viable as tourist attractions. However, there is a lack of research and actions that can develop local tourism in a more consistent way. Among the possible segmentations, it was noticed that the potential of Quixeramobim is articulated with the adventure tourism, segment already developed in Quixadá. The main objective of the research was to identify areas of relevant interest to the development of adventure tourism in the place, as a way to strengthen and expand the development of adventure tourism in the Central Sertão of Ceará. To achieve the proposed objective, the methodology was divided into three phases. As a result, there is a map containing potential points to adventure tourism.

Keywords: Geodiversity, Inselbergs; Residual Relief; Geotourism, Semi-arid.

RESUMO

Quixeramobim integra parte do território da proposta do Geoparque Sertão Monumental, juntamente com o município de Quixadá. No local, identificou-se consideráveis potenciais que podem ser viabilizados como atrativos turísticos. Contudo, há uma carência em pesquisas e ações que possam desenvolver de forma mais consistente o turismo local. Entre as possíveis segmentações, percebeu-se que as potencialidades de Quixeramobim se articulam com o turismo de aventura, segmento já desenvolvido em Quixadá. O principal objetivo da pesquisa foi identificar áreas de relevante interesse ao desenvolvimento do turismo de aventura no local, como forma de fortalecer e ampliar o desenvolvimento do turismo de aventura no Sertão Central do Ceará. Para o alcance do objetivo proposto, a metodologia se dividiu em três fases. Como resultado, destaca-se um mapa contendo pontos potenciais ao turismo de aventura.

Palavras-chave: Geodiversidade, Inselbergues; Relevo residual; Geoturismo, Semiárido. Geosaberes, Fortaleza, v. 15, p. 19-31, 2024.

RESUMEN

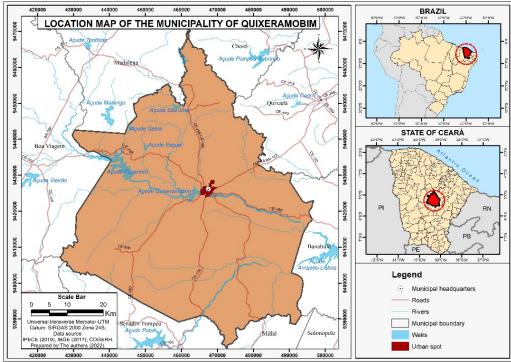
Quixeramobim forma parte del territorio del propuesto Geoparque Monumental del Sertão, junto con el municipio de Quixadá. En el lugar, se identificaron considerables potenciales que pueden hacerse viables como atracciones turísticas. Sin embargo, faltan investigaciones y acciones que puedan desarrollar el turismo local de forma más consistente. Entre las posibles segmentaciones, se observó que el potencial de Quixeramobim se articula con el turismo de aventura, segmento ya desarrollado en Quixadá. El objetivo principal de la investigación fue identificar áreas de interés relevante para el desarrollo del turismo de aventura en el lugar, como forma de fortalecer y ampliar el desarrollo del turismo de aventura en el Sertão Central de Ceará. Para alcanzar el objetivo propuesto, la metodología se dividió en tres fases. El resultado es un mapa con puntos potenciales para el turismo de aventura.

Palabras clave: Geodiversidad, Inselbergs; Relieve residual; Geoturismo, Semiárido.

INTRODUCTION

The municipality of Quixeramobim is located in the central Sertão region of Ceará (northeastern Brazil) and is among the ten largest municipalities of Ceará. With biotic and abiotic characteristics typical of semi-arid regions, the area has a hot tropical semi-arid climate, an average temperature between 26°C and 28°C, and a mean annual rainfall of 707.7 mm, with rains concentrated between February and April (IPECE, 2017).

Figure 1: Location Map of the municipality of Quixeramobim – Ceará (northeastern Brazil).



Source: The authors (2022).

The geomorphological formations (sertaneja depression, residual massifs, and fields of inselbergs), the mineralogical diversity, the presence of rupestrian records, and the scenic beauty of its landscapes make Quixeramobim an area of scientific, educational, and tourist interest. Given this potential, this municipality integrates part of the territory of the "Sertão Monumental" Geopark proposal (FREITAS et al., 2019), together with the municipality of Quixadá.

According to the proposal, nine areas of geosites and geodiversity sites were identified in the region. Marques and Veríssimo (2008) highlight the geotouristic and geoarchaeological



potential of the region, focusing on inselbergs and monoliths due to the occurrence of rupestrian paintings and rock engravings.

There are several attractions in Quixeramobim typical of adventure tourism, in addition to scenarios conducive to the practice of activities in this segment, such as hiking, rock climbing, horseback riding, zip-lining, and cycle tourism, among others. Currently, some activities have been practiced in the region, such as hiking, and, recently, the first free flight ramp was inaugurated in the municipality, reflecting the interest in effectively implementing local adventure tourism.

In addition to the local potential, it is worth noting that Quixeramobim borders the municipality of Quixadá, which is widely known for the development of adventure tourism, especially for the practices of climbing, hiking, and free flight, being considered a destination that stands out among the national and international demands in this segment.

Considering the geographic proximity between both municipalities and a tourist structure more consolidated in Quixadá, it is believed that further research and direct efforts to enhance tourism development in Quixeramobim may favor not only the geopark proposal, as tourism is one of its pillars, but also strengthen the tourism segment in the central Sertão of Ceará, aiming at the consolidation of an adventure tourism itinerary planning, involving the two municipalities.

Thus, this study aimed to survey areas of relevant interest for the development of adventure tourism in the municipality of Quixeramobim.

MATERIALS AND METHODS

To reach the above-mentioned objective, a three-step method was used, as follows: (1) bibliographic survey, collection of secondary data, and elaboration of part of the cartographic material, in addition to defining the form of identification to recognize and indicate adventure tourism activities; (2) three-day fieldwork to visit the destinations previously selected, make photographic records, and collect cartographic data to make a map, as well as conducting interviews with those involved with the local tourist and cultural context; (3) systematization and interpretation of the results obtained in the previous steps, developing a map of adventure tourism potential, showing areas of relevant interest for the development of this segment.

First, a bibliographic survey was carried out in test base, dissertations, and journals on tourism development, tourism market segmentation, adventure tourism, and tourism in the state of Ceará. The collection of secondary data considered the historical, social, and environmental aspects of Quixeramobim and was performed on official websites, as well as on websites such as the Brazilian Institute of Geography and Statistics (IBGE), Secretary of Environment (SEMA), Brazilian Association of Technical Standards (ABNT), Institute of National Historic and Artistic Heritage (IPHAN), Geological Service of Brazil (CPRM), Water Resources Department of Ceará (SRH), Institute of Research and Economic Strategy of Ceará (IPECE), State Superintendence of the Environment (SEMACE).

In this step, the basic map of the municipality was made, which was used as support in the fieldwork planning, using the ArcGIS 10.4 software and information from IPECE (2019) and IBGE (2017-2019) as a cartographic base. Semi-structured interviews were prepared to be conducted with the representative of the Municipal Secretary of Culture and trail guides.

The potential of the areas visited for adventure tourism activities was recognized based on the classification provided by the Ministry of Tourism of Brazil (2010), which identifies and organizes the activities of this segment in the categories land, water, and air.

The second step consisted of three-day fieldwork, in November 2021, and its main objective was to identify certain areas in Quixeramobim with potential for the development of adventure tourism activities, as well as making photograph records and collecting cartographic



data. Four areas were visited: "Serrote da Onça" ("Pedra do Letreiro – Paus Brancos"), "Salva-Vidas" Farm, "Canhotinho" Farm, and "Pedra do Letreiro".

The last three places were chosen because they are areas of high tourism potential in the municipality and are geosites included in the "Sertão Monumental" Geopark proposal, in addition to the lack of research aimed to identify their tourism potential. The destination "Serrote da Onça" ("Pedra do Letreiro – Paus Brancos"), although has not yet been listed as a geosite in the Geopark proposal, was selected because of its archaeological potential, as it has rupestrian records.

In the second phase, semi-structured interviews were conducted with representatives of the Tourism Department, representatives of popular culture, and trail guides. This sample was chosen based on the collection of information on the research area, performed in the first phase.

The last phase of the research consisted of the systematization and organization of the information obtained in the previous stages, culminating in the elaboration of a map of adventure tourism potential in the municipality of Quixeramobim. According to the classification of the Ministry of Tourism of Brazil (2010) and the specific regulation for the development of adventure tourism activities (ABNT), the potential of each place for the development of this segment was identified. The educational and tourist value of the highlighted places was measured based on the data available in the Registry Geological Sites (GEOSSIT).

TOURISM SEGMENTATION AND ADVENTURE TOURISM

Tourism practices have been present in society since ancient times, as addressed by Barretto (1995) when he points out the first historical record of tourist trips in ancient Greece, which were motivated by the interest in following the Olympic games. However, according to Porto et al. (2014), tourism appeared more significantly in the world economic scenario from the second half of the 20th century, especially after the Second World War.

With the growing evolution of information technologies, tourism assumes even more prominence, becoming a promising activity and considerable alternative for local development because, as addressed by Coriolano (2006), this sector can be a possible source of income for the involved communities, especially in developing countries.

The increased tourist flow, the intensification in the propagation of information, and the greater ease of locomotion are some of the transformations that directly impacted the diversity of segmentation, as they made possible the expansion and emergence of new audiences, increasingly specific, who seek for alternatives besides mass tourism (CAVALCANTE, 2012).

In this context, segments of the most distinct essences, concepts, and objectives have emerged over time, such as ecotourism, cultural tourism, sports tourism, and ufological tourism. More specifically, Moreira (2014) addresses a trend of tourism segmentation with a focus on geological, geomorphological, climatic, and biotic attractions, developed in scenarios such as canyons, caves, rock walls, volcanoes, hot springs, mountains, among others.

Pires and Dantas (2015) believe that the ramification of these new segments is directly related to the need to contemplate the requirements of demands whose main objective is to enjoy more empirical tourist experiences with nature that are beyond the contemplation of the landscape.

Adventure tourism, the subject of this research, is one of those that emerged from this paradigm shift. Its development made it to have its bases initially linked to ecotourism, becoming an independent segment, with specific structural and marketing characteristics, which makes it, in fact, a consolidated segment, evidencing the need to be planned according to its specificities (MACHADO AND BAZOTTI, 2012; BRASIL, 2010; SWARBROOKE et al., 2003).



Before presenting the main characteristics of adventure tourism and the concept adopted in this research, it is important to consider that there is a noticeable problem regarding this segment definition, which is still in a development process because, in addition to being a relatively recent segment, there is still a difficulty in measuring and delimiting a concept that uses subjective and personal keywords, such as adventure, risks, and emotion (DANTAS and PIRES, 2015).

Therefore, the main concept for this segment was established in 2006, by the Ministry of Tourism of Brazil, and considers that "Adventure Tourism comprises tourist movements resulting from the practice of adventure activities of recreational and non-competitive nature" (BRASIL, 2010, p. 19).

Based on this definition, "tourist movements", "adventure activities" and "non-competitive nature" are the main expressions articulated to consolidate the concept of adventure tourism and the understanding of each expression makes possible a greater proximity to this concept.

The first expression can be understood as "displacements and stays that assume the execution of activities considered to be tourist" (BRASIL, p. 9, 2010). Even more specifically in adventure tourism, these displacements are motivated by the practice of adventure activities, involving the use of services and commerce related to the segment, such as accommodation, tourist driving, recreation, and entertainment, among other activities.

The other two expressions are related to the offer of activities in the segment. These activities must be offered commercially to tourists, maintaining the recreational and non-competitive character. This understanding is fundamental, as it explains the particularities of adventure tourism, differentiating it from other segments, such as sports tourism, whose activities have a competitive character.

Due to its adventurous nature, the activities of this segment involve important variables, such as controlled risk (since it is an activity previously planned and systematized according to the set of rules that aim to ensure the integrity of all those involved) and assumed risk (both tourists and professionals know and are co-responsible for the risks of the experience).

Because of the controlled and assumed risks, which are characteristic of the segment, its systematization is based on standardization that identifies, defines, regulates, and certifies. ABNT has a set of norms (such as NBR 15285, NBR 15286, NBR 15331, NBR 15334, NBR 15370, NBR 15383, NBR 15397, NBR 15398, NBR 15399, NBR 15400, NBR 15453, among others) that guides the execution of each adventure tourism activity, defining safety equipment, training of instructors and other criteria, as a way of preventing accidents during tourism practices (CORIOLANO; MORAIS, 2011).

According to Brasil (2010), the segment consists of 26 activities grouped into three categories, as shown in Table 1.

Table 1: Categories and activities of adventure tourism.

CATEGORY	ACTIVITY
Water	Buoy-cross; canoeing; duck; floating/snorkeling; kitesurfing; tourist scuba diving; rafting; windsurf.
Land	Tree climbing; bungee jumping; waterfalling; canyoning; hiking; hiking (no overnight stay); long-distance hiking; horseback riding; cycle tourism; speleotourism; vertical speleotourism; climbing; mountaineering; off-road tourism on 4x4 vehicles or buggies; zip-line.
Air	Balloon riding; skydiving; free flight (hang gliding or paragliding).

Source: Adapted from BRASIL (2010).



The Adventure Travel Trade Association (ATTA) also stands out, as an international adventure tourism association, which understands adventure tourism as the result of the interconnection between nature, physical activities, and cultural immersion. When considering this concept, it is evidenced the importance of multiple tourist attractions as a way of enriching the destination, as it goes beyond the mere offer of activities directly related to the segment, given that the diversity of the tourist offer enhances the destination.

Vasconcelos et al. (2012) address that all the definitions proposed to conceptualize the segment have in their common base the idea of environmental sustainability and the practice of stimulating activities in contact with nature. Thus, although it is still in the development process and susceptible to new transformations, it is observed that there is a tendency to structure the essence of adventure tourism and a set of characteristics that differentiates it from other segments.

Adventure tourism is present in some of the most traditional tourist destinations in Ceará, such as "Canoa Quebrada", "Cumbuco", and "Jericoacoara", especially for Kitesurfing. However, in recent decades, it has been identified a trend of expansion to other areas that are not part of the already saturated sun and beach itinerary, such as "Tianguá", "Ubajara", "Guaramiranga", "Quixadá" and "Tejuçuoca".

Therefore, this segment can be an alternative way to develop the economy, even as an income supplementation activity, and expand development possibilities to non-privileged areas in the tourism context of Ceará, especially in sertaneja regions, as in the case of Quixeramobim. It should also be noted that, as it is a segment generally developed in natural areas, it can be planned considering a more sustainable tourist development.

THE MUNICIPALITY OF QUIXERAMOBIM AND ITS POTENTIAL FOR THE DEVELOPMENT OF ADVENTURE TOURISM

Quixeramobim (Figure 2), a scene of great beauty, is located in a region known for its fields of inselbergs and residual massifs, making it different from other regions of Ceará.

Quixeramobim was one of the main urban centers in Ceará, with a prominent position in urban and economic development, such as the building of the first railways in the state and its reference in the cattle cycle. Important elements of regional culture also stand out, such as Antônio Conselheiro, who was a revolutionary associated with the "Canudos" War, making historical and cultural tourism one of the segments of the municipality.

In addition to the potential for historical and cultural tourism, it was found that, similar to Quixadá, Quixeramobim has significant potential for the development of adventure tourism, being able to establish itself as one of the destinations of this segment in sertaneja areas.

Prioritizing the development of adventure tourism, this study listed four potential areas that stand out for such segment, namely: "Serrote da Onça" ("Letreiro de Paus Brancos"), "Canhotinho", "Salva-Vidas", and "Pedra do Letreiro", highlighted in the figure 3.



Figure 2: Landscape in Quixeramobim



Source: The authors (2021).

The "Serrote da Onça – Letreiro de Paus Brancos" is located in the southern region of the municipality of Paus Brancos, approximately 50 km away from Quixeramobim and near the municipality of Senador Pompeu. The main access, from the municipal headquarters to the area, is through highway CE-060. The "Letreiro de Paus Brancos", located in "Serrote da Onça", is not in the "Sertão Monumental" Geopark proposal, as a geosite or site of diversity; however, it has a series of potentialities feasible for adventure tourism and other segments.

"Serrote da Onça" is registered in the National Register of Archaeological Sites (CNSA, 1971), with the identification code CE00017. This area has as main attraction the rupestrian records as painting on a block of granitic rock of about 4.5 m wide by 3.5 m high (Figure 4 – Images A and B). This place can be accessed through a trail of approximately 500 m (Figure 4 – Images C and D) from the access fence, with shrubby vegetation, typical of caatinga environments, and the predominance of species commonly known as Pau Branco (Auxemma oncocalyx).

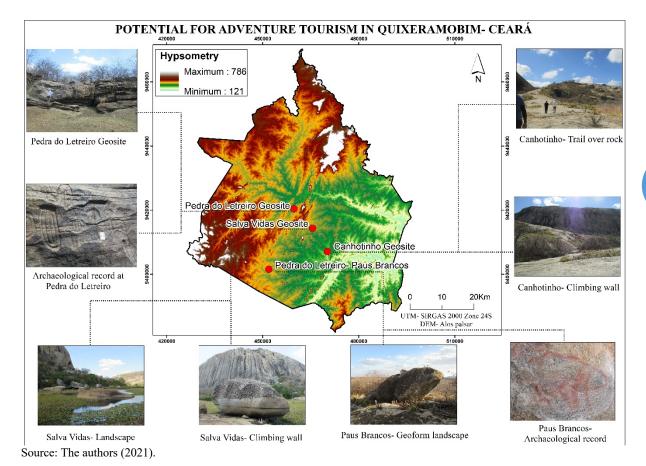
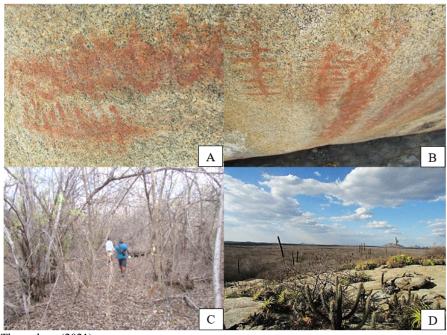


Figure 3: Potential areas for adventure tourism – Quixeramobim

Figure 4 – Rock records in "Serra da Onça – Letreiro de Paus Brancos" (Ceará, Brazil)



Source: The authors (2021).



Considering the adventure tourism activities, this area and its surroundings have the potential for hiking (in the three classified modalities: hiking, hiking with no overnight stay, and long-distance hiking), horseback riding, and cycle tourism. The potential for the development of community tourism was also identified in a small rural community.

Currently, this place is sporadically visited by external guides who take groups of visitors. Some residents are willing to accompany visitors, providing them with superficial information on rupestrian records and other characteristics of the area. At the end of the trail, they can contemplate part of the municipality's relief with the potential for an overlook for recreational and educational tourist use.

The potential for the development of other tourist segments, in addition to adventure tourism, was also identified. Paus Brancos is one of the local reference areas regarding cultural manifestations in the municipality. Community residents form a group of "Reisado", well known in the region, which has already participated in regional events. However, due to the lack of initiatives that strengthen the continuity of this activity, the group is temporarily suspended.

Despite the potential of the region, there is a need for investment in training local guides, as well as improving the access to the place of rupestrian records, more inspection to protect the area, installation of interpretive signs, and directional signs.

"Canhotinho" archaeological site is the second area addressed in this research, located on "Canhotinho" Farm, approximately 30 km away from the municipal headquarters, with access through highway CE-166. To get to the farm, part of the route is traveled by wagon. The area is one of the geodiversity sites of the "Sertão Monumental" Geopark proposal and is registered in the CNSA (1971), under the identification CE00009, and in the GEOSSIT (2020) due to the rupestrian records found in the "Letreiro do Canhotinho" (Figure 6 – Images A, B, and C). According to Freitas (2009), these records were made on a granitic rock, consisting of isolated blocks and rocky outcrops.

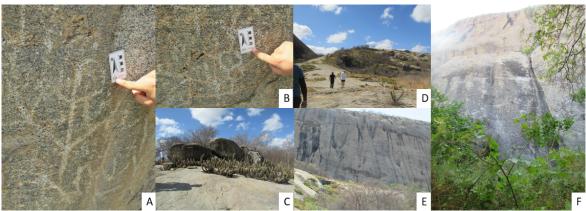


Figure 5 – Tourism potential in Canhotinho

Source: The authors (2021).

GEOSABERES

The records found in that area are perforated graphism and pure graphism (ALCÂNTARA, 2021). According to Freitas (2009), the rock engravings in "Letreiro do Canhotinho" are different, as they were made using the perforating technique, whereas the others were made using the technique of deep and superficial polishing.

The place receives groups of visitors, by prior scheduling, to go hiking on the "Canhotinho" Trail (Figure 5 – Image D). Part of the route is traveled on a granitic base with a slight slope. Although tourists are allowed to enter the area accompanied by a responsible person, they can also ask for a guide for conducting them along the route. According to the GEOSSIT register (2020), the area has educational and tourist value of national relevance, in

addition to geological, petrographic, archaeological, scenic, historical/cultural, and aesthetic interests.

According to the classification of adventure tourism activities (Brasil, 2010), hiking is already being performed in the region. Regarding other adventure tourism activities, it was identified a potential for climbing on the local granite wall (Figure 5 – Images E and F). This wall has varying degrees of slope, making it possible to climb at different levels of difficulty, in addition to establishing itself as a place for training instructors for the activity. The area also has potential for zip-lining and cycle tourism.

As it is on private property, access to the place requires authorization; however, with prior scheduling by professionals involved with trail activities, visits can be authorized. In this sense, tourism planning must be performed in dialogue with those responsible for the property.

The "Salva-Vidas" (Figure 6) is the third place highlighted in this research, which is located on "Salva-Vidas" Farm, about 17 km from the municipal headquarters, being mainly accessed through highway CE-166 towards the municipality of Senador Pompeu. This place is also in the "Sertão Monumental" Geopark proposal, in the geosite category, registered in the GEOSSIT (2020).

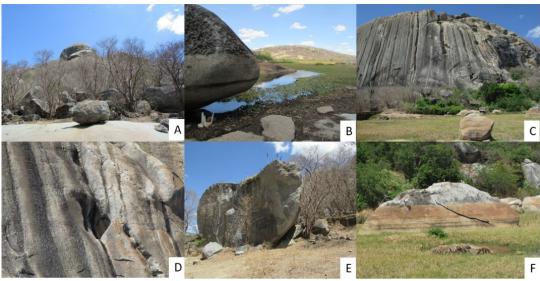


Figure 6: Mosaic of images – Salva-Vidas

Source: The authors (2021).

"Pedra da Gaveta" (Figure 6 – Images C and D) is the largest rock in the area and, at its base, there is a weir, located between the inselbergs. There are several rocky blocks on the banks of the weir, some of them with interesting geoforms, as shown in Figure 6 – Images B and E, forming a complex of rocky outcrops.

According to the GEOSSIT (2020), the area has educational and tourist value of national relevance, in addition to considerable archaeological, of scenic expression, ecological, historical, and cultural interests.

Specifically for adventure tourism, as observed in the previous place, Salva-Vidas has the potential to develop climbing activities, especially in "Pedra da Gaveta". Regarding other adventure tourism activities, described in Brasil (2010), the area also has hiking potential.

Because it is on private property, access and activities in the area are only possible when authorized by the owners; however, there is an interest in carrying out activities within the context of geoconservation.

The next area is "Pedra do Letreiro" (Figure 7), approximately 15 km from Quixeramobim. It is accessed through highway CE-060. Due to its archaeological relevance,



this place is registered in the CNSA (1971) on the IPHAN website, identified by the code CE00012. According to the CNSA (1971), it is a rock in the bed of the "Mofumbo" stream where the rock inscriptions are found (Figure 7 – Images B and C). Parnes and Souza (1971) apud Alcântara (2021) indicate 879 rupestrian records. Alcântara (2021), in his recent research, raises the possibility of the existence of more records on "Pedra do Letreiro". In addition to these records, there are 16 stone circles of 20–30 cm (Figure 7 – Images D and E).



Figure 7 – Pedra do Letreiro

Source: The authors (2021).

"Pedra do Letreiro" is one of the main reference places in the municipality, due to its archaeological characteristics, attracting several researchers. "Pedra do Letreiro" Trail is the only place to perform adventure tourism activity in the area, with a path of approximately 450 m, from its beginning at the fence of the carroçavel road (traveled by wagon) to the rock where the rupestrian records are found; however, Alcântara (2021) emphasizes the significant tourism potential in the place, considering "Pedra do Letreiro" as a destination not only for tourist recreation but as a favorable place for the promotion of scientific dissemination and heritage education:

The place in question has geotourism and geoeducational potential, which in a planned and articulated way may receive different groups of tourists and students in the future. These joint practices make room for encouraging heritage education on the geosite, in addition to promoting interdisciplinary activities between teachers and students. (ALCÂNTARA, p. 90, 2021).



Considering the archaeological importance and the urgent need for local conservation, it is suggested the structuring of the existing trail and the inspection of access. There is also a need for interpretive signs along the route and at the place where the records are found, providing explanations about the relevance of the area to the historical, cultural, and archaeological context.

FINAL CONSIDERATIONS

This research sought to present some attractions to contribute to the continuity and strengthening of adventure tourism, considering the local potential, the segment activities that have been already implemented, and the other factors that make Quixeramobim a promising area for tourism, especially regarding its integration into the "Sertão Monumental" Geopark proposal.

To implement a tourism planning proposal, it is necessary to consider the local limitations and, in the case of Quixeramobim, it is worth highlighting some topics. It was observed the absence of signposts to help tourists in the locomotion during their experience, especially in the case of a self-guided experience.

Although there are places of singular archaeological, historical, educational, and tourist relevance, another issue that deserves attention is the absence of interpretive signs, explaining the main characteristics and important information on the visited place. Although some of the tourist points are easily accessible, the presence of trained guides or interpretive signs is essential to make the most of the visit.

Regarding the systematization of tourism management and the presence of leaders, there is a need for greater articulation and the implementation of initiatives that seek to integrate and provide means to encourage the organization of cooperatives and tourism groups. Even if the tourism potential is identified, planning is necessary to direct this development.

It is believed that the municipality of Quixeramobim has considerable attractions, not only for adventure tourism but for various segments, and through planning committed to local development and with a sustainable perspective, it can be consolidated as an interesting tourist destination in the central Sertão of Ceará.

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