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Mercator, Fortaleza, v.20,e20024, 2021. ISSN:1984-2201

SPATIAL ORGANIZATION OF TOURIST ACTIVITY ON THE COAST OF PIAUI

https://doi.org/10.36517/rm2021.e20024

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Article history:
Received 04 February, 2021
Accepted 19 April, 2021
Published 15 August, 2021

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Abstract

Tourist activity occurs in a selective and fragmented manner in space. On the coast of Piauí, this fragmentation process has produced two types of territorialization: used territories versus territories neglected by tourism. This research aimed to identify and characterize these territories, considering the densification and / or dispersion of the tourist infrastructure. The methodology employed is a dialogical approach to interpret the spatial organization and its relationship with the tourist segments observed on the coast of Piauí, using Excel and ArcGis 10.1 software to systematize data. The analyses carried out identified how demand influences the organization of tourism infrastructure in some areas of the municipalities. Likewise, the existing organization of infrastructure and tourist services has also shaped visitor profiles in these areas, forming territories used and / or neglected by tourism. It is hoped that this study can inform decision-making by local public authorities concerning the social and environmental impacts of tourism activities.

Keywords: Tourism, Territory, Space, Geographic Information Systems (GIS).

Resumo / Resumen

ORGANIZAÇÃO ESPACIAL DA ATIVIDADE TURÍSTICA NO LITORAL PIAUIENSE

A atividade turística ocorre de forma seletiva e fragmentada do espaço. No litoral do Piauí o processo de fragmentação gerou dois tipos de territorialização: territórios usados X territórios negligenciados pelo turismo. O objetivo desta pesquisa foi identificar e caracterizar esses territórios, levando-se em consideração o adensamento e/ou a dispersão da infraestrutura turística. A metodologia utilizada é de abordagem dialógica para a interpretação da organização espacial e a sua relação com os segmentos turísticos observados no litoral piauiense, utilizando os softwares Excel e ArcGis 10.1 para a sistematização dos dados. A partir das análises realizadas identificou-se como as características da demanda influenciam a organização da infraestrutura turística em algumas áreas dos municípios. Da mesma forma, a organização existente da infraestrutura e os serviços turísticos também moldaram o perfil de visitantes nessas áreas, formando os territórios usados e os territórios negligenciados pelo e/ou para o turismo. Espera-se que este estudo possa subsidiar a tomada de decisão dos poderes públicos locais em relação aos impactos sociais e ambientais da atividade turística.

Palavras-chave: Turismo, Território, Espaço, Sistemas de Informações Geográficas (SIG).

ORGANIZACIÓN ESPACIAL DE LA ACTIVIDAD TURÍSTICA EN LA COSTA DE PIAUÍ

La actividad turística ocurre de manera selectiva y fragmentada del espacio. En la costa de Piauí el proceso de fragmentación generó dos tipos de territorialización: territorios utilizados vs. territorios abandonados por el turismo. El objetivo de esta investigación fue identificar y caracterizar estos territorios, tomando en cuenta la densificación y/o dispersión de la infraestructura turística. La metodologia utilizada se basa en un enfoque dialógico para la interpretación de la organización espacial y su relación con los segmentos turísticos observados en la costa del estado de Piauí, utilizando los softwares Excel y ArcGis 10.1 para la sistematización de los datos. A partir de los análisis realizados, se identificó cómo las características de la demanda influyen en la organización de la infraestructura turística en algunas zonas de los municipios. De igual manera, la organización existente de la infraestructura y los servicios turísticos también moldearon el perfil de los visitantes en estas áreas, formando los territorios utilizados y los territorios abandonados por y/o para el turismo. Se espera que este estudio pueda contribuir a la toma de decisión de los poderes públicos locales acerca de los impactos sociales y ambientales de la atividad turística.

Palabras-clave: Turismo, Territorio, Espacio, Sistemas de Información Geográfica (SIG).

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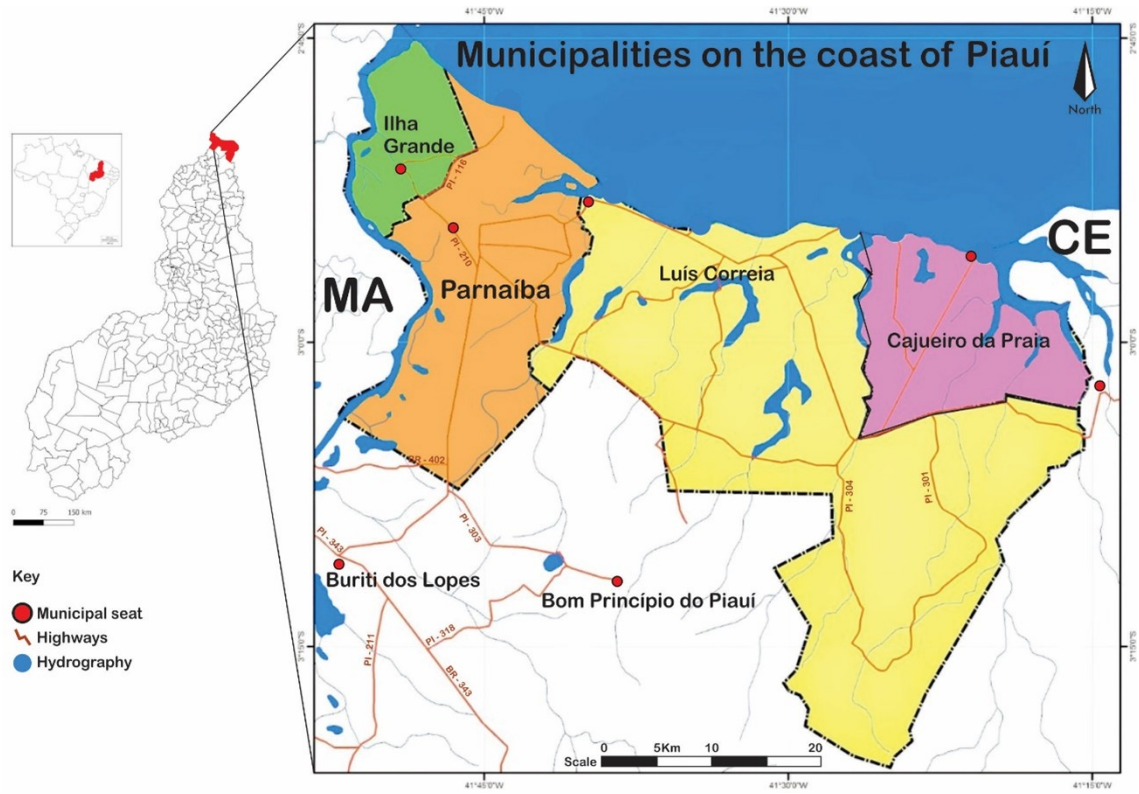
INTRODUCTION

Tourism is one of the principal global and national economic activities; in 2018, the sector represented 10.4% of the world gross domestic product (GDP), 8.1% of Brazilian GDP (OMT, 2019), and 3, 5% of the total jobs of the economically active Brazilian population (MARTORELL, 2020). Tourism's economic strength generates several intense and, at times, abrupt effects in the receptive nuclei, which take different forms, such as cultural, social, environmental, and economic impacts. In the Brazilian Northeast region, tourism has emerged as one of the main economic activities in most of the nine states.

However, in Piauí, on a state scale, the activity is still insipient and has a peripheral position in tourist visits and tourism promotion when considering the context of tourism in the Northeast region. Putrick (2019) points out that "Piauí is the second state in the Northeast region with the lowest number of tourists, only behind Sergipe" and that "Piauí only contributes 0.7% of trips made in Brazil, the seventh-lowest emitter of tourists, among all the Federation Units. In terms of generating tourist revenue, its share is 0.8% of the country's total" (PUTRICK, 2019, p. 87).

This study aims to understand the territorial dynamics and impacts caused by tourist activity on the coast of Piauí, characterizing the activity, concentration, and dispersion of spatial structures associated with it in the four municipalities that compose the Piauí coast: Ilha Grande, Parnaíba, Luís Correia, and Cajueiro da Praia located in the northern portion of the state, between Maranhão and Ceará (MAP 1).



Map 1 - Municipalities on the coast of Piauí. Source: Author's compilation (2020). Source of the cartographic base: IBGE (2020).

The criterion for defining the region was based on the state limits of Piauí, the state's coastal municipalities, and the region's representativeness in the tourist scene. The same geographic cut has been used by authors such as Silva (2013), Martins Filho (2014), Borges (2018), and Putrick (2019) to analyze tourist activity. The region of the Polo Costa do Delta stands out as the leading tourist destination in Piauí with a "decisive role in increasing its competitiveness in the tourist market and endowing Piaui's tourism with a strong identity" (PUTRICK, 2019, p. 127). Thus, the objective was to

analyze the impacts of tourist activity in the coastal region of Piauí as a space-producing force, understanding the dialogical relationships between the conditions and impacts of this activity when it occurs without local or regional planning and management.

The method employed made it possible to delimit tourist territories based on objective elements such as the existence and location of the tourist infrastructure. Furthermore, the approach indicates that the same method can be easily applied in other locations to identify, characterize, and evaluate the processes of territorialization and spatial fragmentation caused by tourism.

A THEORETICAL REVIEW: TOURISM, SPATIAL PRODUCTION, AND USED AND NEGLECTED TERRITORIES

Authors such as Beni (2000), Boullón (1990, 2002), and Luchiari (1999) present some of the most consolidated conceptions in the academic field of Brazilian tourism. They consider tourist space as having a concentration of tourists, attractions, and tourist facilities, obeying the logic that tourist activity determines the characteristics of the spatial organization in the receiving nuclei. According to Boullón (1990, 2002), the presence and distribution of tourist attractions, enterprises, and infrastructure are the foundation that demarcates tourist space. The analytical stages in this study are strongly influenced by Boullón, especially the search for explanations of the distribution of tourist infrastructure on the coast of Piauí.

When incorporating social, cultural, and environmental dimensions to discuss tourism, Beni (2000) produced an initial systemic analysis of tourism in Brazil. The author's pioneering spirit established the basis to approximate Morin's (2000) theories of complexity and the systemic analysis in tourism studies conducted by Gontijo (2003), Braga (2006, 2011), and others. In 2017, Beni and Moesch highlighted aspects of complexity theory such as the interdisciplinary and holographic vision to analyze tourism, approaching it as both an activity and a phenomenon. By suggesting a systemic organization for tourism, the complex approach brought together "that which is separated by traditional disciplines and whose object is constituted by the interactions between elements rather than their separation" (MORIN, 2000, p. 199).

Regarding the holographic principle, the authors emphasize "the apparent paradox of certain systems in which not only is the part in the whole, but the whole is also in the part" (BENI and MOESCH, 2017, p. 431). Morin exemplifies the holographic approach by remembering that "the individual is a part of society, but society is present in each individual as a whole through their language, culture, and norms" (MORIN, 2000, p. 205). Beni and Moesch argue that the interdisciplinary view meets the investigative method because "tourism is much more than these reductionist concepts under a disciplinary view which portray it as a sector or activity in econometrics studies" (BENI and MOESCH, 2017, p. 432).

Even recognizing that tourism is not reduced to an economic activity, it should be considered that "tourism materializes as a complex socio-spatial phenomenon, whose most visible face is an extremely dynamic and impacting economic activity" (FRATUCCI, 2014, p. 91). Besides being more visible, the economic aspects of tourism provide measurable variables, in contrast to impacts on the cultural, social, and environmental spheres that can be subjective and difficult to measure. The spatialization and formation of territories proposed in this research are only possible through fixed points in space, which correspond, on the whole, to tourist infrastructure and undertakings. Thus, we focus on the spatial matter of economic activities linked to tourism to establish used and neglected territories.

The concept of used and neglected territories proposed by Santos and Silveira (2001) is applied by Cruz (2005) to analyze national tourism policies from the year 1990 and their spatial repercussions. For Santos and Silveira (2001), the "used territory" category is a synonym for "geographic space." "Used territory" applies to "portions of space effectively used by society and businesses" (CRUZ, 2005, p. 28). For Santos, "territory has to be understood as used territory, not the territory itself. Used territory is the earth plus identity. Identity is the feeling of belonging to what belongs to us" (SANTOS, 2002, p. 10). He defines neglected territory as the "dialectical pair" of used territory, portions which are "not exactly

unused, but somehow eluded, as a kind of store of value or, merely, as a portion of space over which the interests of hegemonic social subjects have not fallen" (CRUZ, 2005, p. 28).

The territories used and neglected by tourism are not addressed here dialectically; instead, the approach is dialogical since the dialectic view follows a logic of counterpoint and conflict. On the other hand, a dialogical perspective develops an understanding of the sum, complexity, and interaction. Comprehending the territorial fragmentation process promoted by tourism and the dialogues between these portions of space underpins the proposed analysis of the spatial action of activities on the coast of Piauí. Epistemological discussions about space and territory, both concepts that generate intense debates in geography, are not tackled here. The authors Cruz (2005) and Santos and Silveira (2001) adopted the concepts "used territory" and "neglected territory" to refer to these portions of geographical space. According to Cruz (2005), this view necessarily imposes an empirical approach on the spatial repercussions of public tourism policies.

For Fratucci (2014), the recursion between tourism and related economic activities results or reflects "socio-spatial phenomenon and should not (or should not be able) to be studied, ordered and planned separately from it" (FRATUCCI, 2014, p. 91). The socio-spatial phenomenon of tourism results in the "touristification" of some spatial segments, producing discontinuous territories this research defines according to the degree of use or materialization of tourist activities.

Studies by Benseny (2006), Vieira et al. (2019), and Pereira and Dantas (2019) follow this interpretative current, turning to tourism in coastal regions. For these authors, the form and type of impacts tourism causes in coastal environments are characteristic of this ecological unit. Tourism in coastal areas replaces traditional activities with new production models imposed in a standardized way: the urbanization process is accelerated and configured to specialize coastal space (BENSENY, 2006). The drastic change in land use and the excessive concentration of tourism services on the coastal strip are factors associated with the vacation industry and spatially configure used and neglected territories.

The transformations of coastal space, especially in the Northeast of Brazil, are highlighted by Pereira and Dantas (2019). They consider the intention to organize expanses of the northeastern coast for what they generically name tourist activities an action that causes spatial differentiation. According to the authors, this process is carried out through private investments to build hotel chains and / or real estate projects to increase the number of tourists in these places. As a result, "tourist stretches" are formed on the Brazilian coast, which are also enjoyed by local populations. In their overall approach to the transformations on the Brazilian coast, the authors consider that since the end of the nineteenth century, the process of the dynamics of coastal modernization "is characterized by the production of new constructions (sidewalks, piers, walkways), the installation of leisure ventures (restaurants, hotels, theme parks, aquariums) and the reinvention of practices and their adaptation to the beach or the sea" (PEREIRA and DANTAS, 2019, p. 7).

Geographical authors, such as Sotchava (1977), Lefebvre (2006), and Mullins (1991), help explain that spatial organization determines the tourist activity's form of action. Their ideas differentiate tourism in coastal regions from other forms of tourism, as they focus their studies on spatial characteristics as determinants for the activity. According to Butler (2004), each place's reaction to the arrival of visitors is the most significant determinant of its stagnation or change.

As Luchiari (1999) and Ouriques (2005) point out, when expanding to rural and natural areas, tourist activity expresses its autophagic features, transforming natural resources into merchandise, changing residents' perception, especially in Environmental Conservation Units and their surroundings. Ouriques (2005) gives an example of this scenario: "fishing has become predatory, the land, private property, and the forest, an ecological reserve that protects itself, but not the man who is part of it" (OURIQUES, 2005, p. 71).

When describing the process of occupation and / or transformation of space by / for tourism, Castrogiovanni (2013) states that space is produced, occupied, and transformed according to modern trends. For the author, "unoccupied areas, such as mountains, deserts, the bottom of oceans and seas are occupied or appropriated, intended for leisure for those who can enjoy them" (CASTROGIOVANNI, 2013, p. 383). This use does not occur randomly, "the consumption value of the territory inserted in space meets market trends and, not always, social needs" (Op. cit.). Such production processes and the organization and / or destruction of the space described are analogous to those observed in the Piauiense

coast's most visited areas and considered "used territory" by and / or for tourism.

Ouriques (2005) adds to the above, defining the typical tourist as a worker on vacation, temporarily away from home, "their presence, which is often uncomfortable for the inhabitants of the receiving places, is socially accepted and even economically stimulated" (OURIQUES, 2005, p. 46). Tourism does not differ from any other economic activity, as it produces territories under the same unsustainable capitalist logic of industrial production (RODRIGUES, 1996; MORATAL et al., 2018).

The arrangement of tourism that results from the territorialization process is described as the use "of the existing means in the tourist area for the success of proposals related to tourist activities" (CASTROGIOVANNI, 2013, P. 382). The "tourist space seems to be characterized by the dialogicity between a place's forms and subjects, inserted in the time and complexity that is the world" (Op. Cit.). The author lists six characteristics related to a definition of "tourist urbanization" in the streets and paths of these spaces, which compose and serve to describe and differentiate "used territories" from "neglected territories" by tourism.

Castrogiovanni's (2013) six aspects to demarcate the territories used by tourism are: 1) The ease of flow of subjects and vehicles (accessibility);[1] 2) The aesthetic or scenic pleasantness;[2] 3) The built landscape and paths;[3] 4) Urban services;[4] 5) Tourism support facilities[5], and 6) Urban structures.[6] As seen below, all these variables were observed in the areas with the highest tourist infrastructure density in the municipalities under study.

In addition to the authors previously cited, studies by Carvalho and Moesch (2013), Antunes and Águas (2017), Martínez-Roget, Moutela and Núñez (2015) served as a preliminary bibliographic base, since their research contemplates the action of tourist activity in rural, natural spaces, thus encompassing much of the region studied here. Nature-oriented tourism depends on the dialogical relationship between tourist demand and existing environmental conditions, such as beaches, dunes, mountains, rivers, waterfalls, viewing points, and access, determining whether development occurs. Consequently, they must be analyzed from the perspective of complexity.

Corrêa (1995) stands out among the authors dealing with rural and natural spaces transformation into urban ones through a simple analogy between the characteristics of "urban" and "tourist" spaces. The author elects the owners of the means of production (especially the large industrialists), landowners, real estate promoters, the State, and excluded social groups as the agents of production of urban space (CORRÊA, 1995). These agents are the same as those who form "tourist space," as identified by Cruz (1999), Haesbaert (2004), Knafou (2001), Fratucci (2008, 2014), Molina (2007), and Freitas (2008). The inhabitants of the receptive nuclei, even in rural areas, start to live, sometimes passively, with the dynamics and impacts of urban areas, the origin of most visitors.

When addressing the phenomenon of "socially selective urban land appropriation" pointed out by Luchiari (2000), Fratucci (2014) describes the selective characteristics of the tourism territorialization process concerning some elements of the visited space. Thus, while some features are valued, others are ignored. Similarly, Putrick (2019) highlights discontinuities and heterogeneities as typical in the urbanization process, since phenomena "such as the valorization of spaces, to the detriment of others, denote a contradiction in space and society" (PUTRICK, 2019, p. 85).

In summary, the characteristics of selectivity and discontinuities described by Luchiari (2000), Fratucci (2014), and Putrick (2019) in tourist territories were considered analogous to the concepts of territories described by Cruz (2005), Santos and Silveira (2001).

METHODOLOGICAL PROCEDURES

Secondary data were collected from specialized journals and databanks of theses and dissertations in tourism, sustainable development, and environmental sciences. Journals were the most sought after due to their regular publication, ensuring a continuous information flow about research results and thus ensuring the process of knowledge of the area (ANSARAH and REJOWSKI, 1996; REJOWSKI, 2011). Moreover, given the interdisciplinary nature of tourism studies, "the starting point is the critical interpretation of what has been produced so far and what is currently being produced through research in bibliographic and documentary sources" (DENKER, 1998, p. 37).

The secondary data survey began with a bibliometric analysis; that is, it encompassed the analysis of books and publications. Articles with the keywords: "Parnaíba," "Luís Correia," "Ilha Grande," "Cajueiro da Praia" and "Piauí" combined with the terms "tourism," "environment," "sustainability," and "development" were pre-selected. The result was 73 texts, including articles, dissertations, and theses written in the last five years on tourism on the coast of Piauí. The data were systematized and discussed throughout the work.

The data collection used information obtained from the Tourism Offer Inventory (INVTUR) between 2019 and 2020. INVTUR is a standardized database of the Ministry of Tourism of Brazil (BRASIL, 2006), which consists of the "survey, identification and registration of tourist attractions, services, and facilities and the infrastructure to support tourism as a basic instrument of information for planning, managing, and promoting tourism activity" (BRASIL, 2006, p. 10).

All four Piauí municipalities on the Rota das Emoções have INVTUR. Data was collected from Cajueiro da Praia and Ilha Grande in the second half of 2019 and information from Parnaíba and Luís Correia in the first half of 2020. The inventory of tourist attractions, accommodation, and the food and beverage (F&B) sector of the municipalities on the Piaui coast, enabled the mapping of the coastline's tourist infrastructure and the analysis of the concentration and dispersion of these structures, based on the database and indicator models presented by Goulart (2015), Lima (2015), and Reis (2018). The methodology proposed herein also dialogues with Santos' (1997) concept of space, in which the dynamics between fixed and flows order, signify and resignify the structures dispersed in the study region.

The primary data were georeferenced and represented on three different scales to understand the dispersion and / or grouping of the tourist infrastructure. The primary information from fieldwork has been complemented and reviewed by secondary sources via Google Maps and Google Earth. The geographic coordinates and information about the infrastructures were organized in Excel spreadsheets and later converted to the shapefile format. The ArcGis 10.1 Geographic Information System software was used to create the maps. The cartographic bases use the UTM projection and the Geocentric Reference System for the Americas (SIRGAS 2000 UTM Zone 23s). In addition, the following sources were used: the base shapefile of each municipality's network was taken from the website of the Brazilian Institute of Geography and Statistics (IBGE) and the North American Environmental Systems Research Institute (ESRI); the shapefile of the Piauí's highways came from the website of the National Department of Transport Infrastructure (DNIT); Google Maps (2020) and the Chico Mendes Institute for Biodiversity Conservation (ICMBio, 2020).

THE MUNICIPALITIES OF THE PIAUÍ COAST VERSUS TOURIST INFRASTRUCTURE

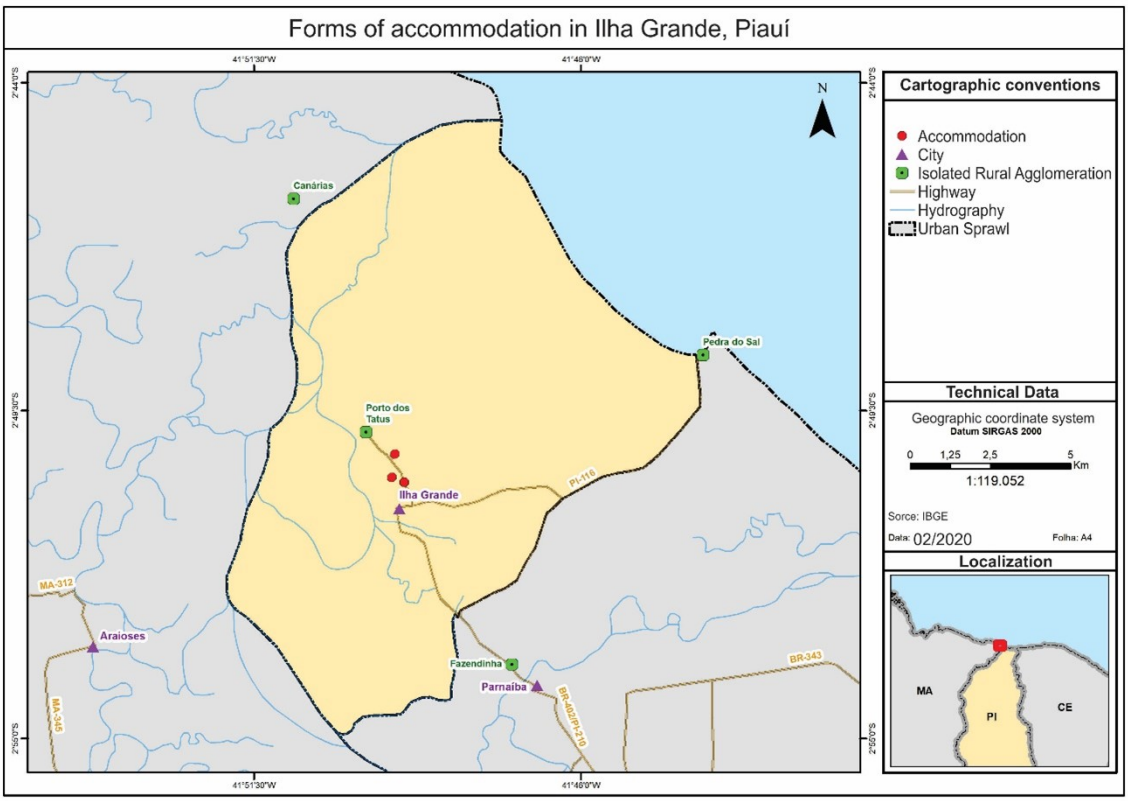
Each of the four municipalities on Piauí's coast has individual tourist features. The following descriptions show how the concentration and / or dispersion of tourist infrastructure have created a specific configuration for the municipalities studied and briefly contextualizes the activity's history and analyses this infrastructure on a municipal scale.

ILHA GRANDE

Despite being politically independent and acting as the gateway to the Parnaíba Delta, the municipality of Ilha Grande's[7] infrastructure is inadequate both for the local community and to receive tourists. The municipality depends entirely on Parnaíba, making the municipal seat merely a "place of passage" for those visiting the Parnaíba Delta (SILVA, 2009). Borges (2018) highlights this fact when stating that Ilha Grande depends on the neighboring city, Parnaíba, for accommodation, food and beverage services, and booking local and regional tours and travel.

Ilha Grande's situation concerning tourism is reflected in its infrastructure; in a survey carried out in 2015, the municipality did not have any forms of visitor accommodation (SILVEIRA, 2016). In 2018, there were two establishments (ROCHA, 2018), changing little in 2020, when the number grew to three (MAP 2). The increase is below that observed in neighboring municipalities but followed the growth

trend perceived across the coast of Piauí, especially when comparing surveys carried out between 2015 and 2020.



Map 2 – Forms of accommodation in Ilha Grande, Piau. Source: by the author (2020).

Regarding F&B facilities, Costa (2009) identified eight establishments in 2006, Rocha (2018) counted three in 2018, but in the 2020 survey, this number oscillated positively to seven. In 2006 there was no tourist reception company (COSTA, 2009), and in 2020 there were three undertakings by tourism agencies (ROCHA, 2018). The F&B distribution pattern is practically identical to the accommodation and spreads along the main access route to Porto dos Tatus. Despite benefiting little from tourist activity, the municipality of Ilha Grande suffers from most of the environmental impacts caused by tourism on the coast of Piauí, including garbage, debris and oil stains from vessels, the uncontrolled urbanization of the coastal strip, and spatial impacts from disorderly occupation due to the irregular construction of summer houses, bars, and restaurants (MARTINS FILHO, 2014).

The municipality's cultural and natural attractions could diversify its tourist offer, such as the Caída do Morro Trail (MELO et al., 2020), the Mãe dos Pobres Sanctuary (FIGUEIREDO et al., 2018), local crafts, and seafood and crab festivals. However, the territorialization caused by tourism is volatile and cyclical, intensifying on weekends and in the high seasons when the transit of people between Parnaíba and Porto dos Tatus, where the tour to the Parnaíba Delta departs and arrives, increases. This tourist flow is concentrated in the urban area, specifically around the access roads to Porto dos Tatus, and outside of this location, little tourist activity is perceived.

Milano (2013) addresses a further important factor of Ilha Grande's territorial dynamics when describing the business group ECOCITY Brasil activities. According to the author, since 2008, this transnational capital group has had a "residential tourism project, to be developed in an area of 80,000,000 m²" (MILANO, 2013, p. 135), providing for the construction of tourist complexes, a golf course and other attractions in Ilha Grande de Santa Isabel. The author indicates that ECOCITY Brasil acquired 45% of the area of the municipality between 2009 and 2013, directly affecting "the Tatus, Saquinho, and Labino and Pedra do Sal neighborhoods, belonging to the municipalities of Ilha Grande and Parnaíba, respectively" (MILANO, 2013, p. 135). Milano also highlights the strong rejection by local residents and the Brazilian Institute of the Environment and Renewable Natural Resources

(IBAMA) of this real estate project.

PARNAÍBA

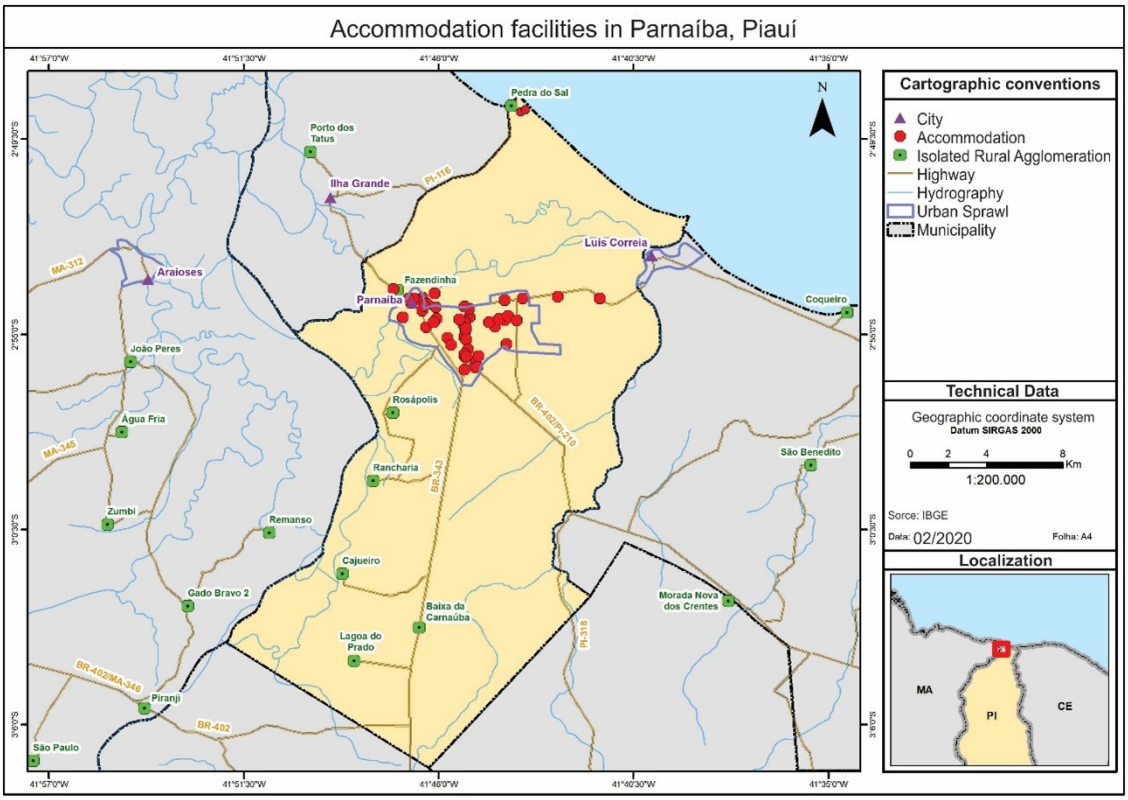
The municipality of Parnaíba[8] has Piauí's second largest population and GDP (BORGES, 2018). The city has undergone an intense development process and, in 2012, had the second-highest GDP in the state, with values above R$ 847 million (Cunha et al., 2014). Of this amount, just over 80%, approximately 679 million reais, was generated by the services sector, which includes tourism.

The history of the municipality of Parnaíba and the Rio Parnaíba almost summarizes Piauí's history and is part of Brazilian cultural and natural heritage (PINHEIRO and CARVALHO, 2018). The Parnaíba River basin shapes the state, and from south to north, it has been a protagonist in the history and spatial arrangements of the western part of Piauí. Porto das Barcas is possibly one of the greatest icons of the Parnaíba River's historical importance in Parnaíba, whose history "is mingled with the economic heyday of Parnaíba city, especially in the periods of carnauba wax, leather and beef jerky, products of great economic value at the time" (PERINOTTO and SANTOS, 2011, p. 216). Furthermore, Porto is in the city's historic center, and the ensemble of buildings is an important architectural example of Piauí and Brazilian colonial and imperial history. Due to its importance, the National Historical and Artistic Heritage Institute (IPHAN) listed Porto das Barcas in 2011, awarding it the title of Brazilian Cultural Heritage[9] (CLEFFS et al., 2019).

Thus, it is evident that the city of Parnaíba plays a centralizing role on the coast of Piauí, acting as the most relevant support center for social, economic, and service activities in the region (SILVA, 2013). It is an essential pole for Business Tourism,[10] Studies and Exchange[11], and Health[12].
Consequently, Brazil's Ministry of Tourism has classified Parnaíba as a central support center for tourists and an inducing destination for regional tourism in the coastline's four municipalities (BORGES, 2018). The municipality's internal demand is already responsible for a large part of the clientele in the bars and restaurants of the municipal seat and neighboring municipalities.

Despite its local and regional importance, Parnaíba's transport system is deficient. The city's airport is underutilized and offers only two weekly flights, on Sundays and Wednesdays, operated by Azul Linhas Aéreas Brasileiras.[13] Intra-municipal transport is provided by very old mini-buses and buses with reduced timetables and varying frequency. Trips to neighboring municipalities are equally lacking in quality, making it difficult, for example, for people to access the beaches, Lagoa do Portinho, and other municipal and surrounding tourist attractions. On certain days and times, there is simply no transportation to these areas. Movement between Parnaíba and the state capital, Teresina, is hampered by the monopoly of the Guanabara bus company, which limits timetables and charges extremely high prices. Due to this monopoly, it is currently cheaper and easier to travel by bus from Parnaíba to Fortaleza, in Ceará state, than from Parnaíba to Teresina. Porto das Barcas virtually no longer operates fluvial passenger transport, and most sightseeing tours leave from Porto dos Tatus, located in the neighboring municipality of Ilha Grande.

The number of accommodation facilities remained high and, in 2015, the municipality had thirty-five hotels and inns (SILVEIRA, 2016). Nevertheless, between 2015 and 2020, growth accelerated in Parnaíba, with the total of hosting amenities reaching forty-eight (MAP 3).



Map 3 - Accommodation facilities in Parnaíba, Piauí. Source: by the author (2020).

Even though visitation to the Parnaíba Delta has been consolidated since the 1980s, the first recorded tourist infrastructure related to Parnaíba is from 2006. In 2009, Silva (2019) mentioned a small number of hotels, inns, and houses for rent: "Parnaíba has ten hotels and four inns, one of which is a recreational center on the banks of Lagoa do Portinho. Residential houses are also rented in the high season" (SILVA, 2009, p. 51). In 2012, Santos et al. (2013) highlighted the rapid growth in the offer of accommodation facilities and counted thirty hotels and / or inns. Other tourism-related developments also increased when compared to data from Santos et al. (2013). There was an expressive increase in food and beverage establishments from twenty-five in 2006 (COSTA, 2009) to one hundred and three. In 2020, there were two hundred and seven F&B projects. The number of tourist agencies totaled eight between 2011 and 2012 and, in 2020, rose to twenty, between receptive and outbound agencies. As a comparison, in 2006, only six companies offered reception services (COSTA, 2009).

It is evident from the map that the forms of accommodation are distributed over almost the whole of Parnaíba's urban area, unlike the other municipalities, where this infrastructure is clustered close to an attraction or access road. In Parnaíba, these ventures are diluted in the urban area. The city's only region with a concentrated leisure tourism structure is Porto das Barcas, one of the few preserved areas in the historic center. The other services are divided between hospitals, shopping centers, the bus station, and the airport. Furthermore, the urban area's dynamic is weakly connected with the Pedra do Sal district, a beach that principally serves daytrippers from Parnaíba. The rest of the coast is occupied by mangroves and the wind energy generators of the Omega Energia company, thus limiting access and use of the coastal strip for tourism in Parnaíba.

LUÍS CORREIA

The economy in Luís Correia is characterized by a small number of undiversified productive activities[14] (SILVA, 2013), with emphasis on tourism, dairy farming, and fishing. Consequently, the municipality is highly dependent on Parnaíba, a position aggravated by its low influence and economic strength (SILVA, 2013).

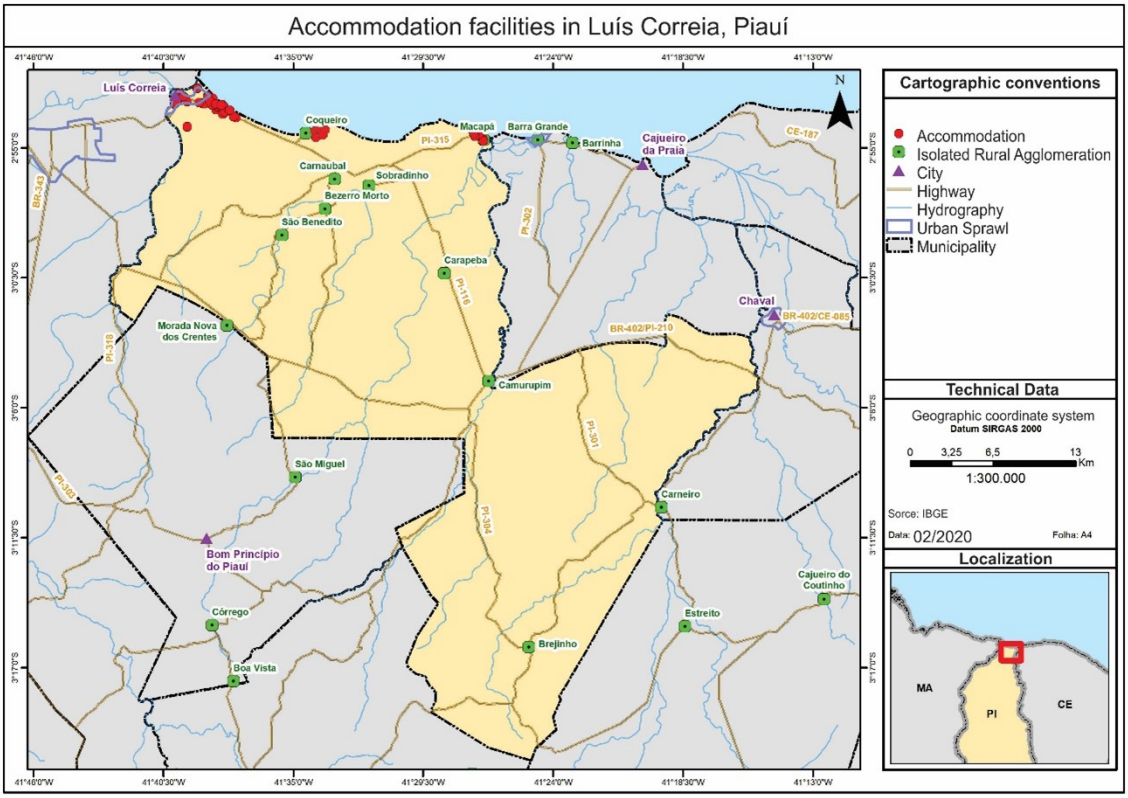
The municipality is the leading destination for Sun and Beach Tourism[15] in Piauí. Tourism in Luís

Correia is restricted to its beaches and is intensely seasonal. With 46 km of coastline, Luís Correia has the longest coastal extension of the Polo Costa del Delta cities (BORGES, 2018). Despite Luís Correia's dependence on Parnaíba, the transportation system connecting the two municipalities is highly deficient and carried out only by a few mini-busses and bus lines. The meager and irregular travel schedules, the vehicles' poor condition, and expensive tickets are problems local users and tourists face.

The Mass Tourism Model[16] and Sun and Beach Tourism have brought problems such as the accumulation of garbage, water and electricity shortages in the high season (December, January, February, and July), and the idleness of the tourism production chain for the rest of the year. At Atalaia beach, these impacts, especially the environmental ones, are very noticeable (SANTOS et al., 2013).

Mass tourism is already showing signs of deterioration in the municipality. During the 2020 carnival, the beaches were practically deserted, attracting the attention of businesspeople and mayors from the coast, especially Luís Correia.[17] According to those in the industry, even the public in Piauí opted against the state's beaches due to the high prices, difficult access, and lower service quality compared to those offered in the neighboring states of Maranhão and Ceará (SILVA, 2009).

Luís Correia's tourist infrastructure followed the trend of other coastal municipalities and increased during the study period. A survey carried out in 2006 identified twelve accommodation establishments; in 2009, there were seven of these (SILVA, 2009). By 2015 this number had risen to twenty-three (SILVEIRA, 2016) and sixty-six in 2020 (MAP 4). The first survey of the tourist infrastructure in the municipality of Luís Correia quantified five hotels, including one resort in the implementation phase at Praia do Coqueiro and two tourist complexes with restaurants, bars, snack bars, a party area, and two swimming pools (SILVA, 2009, p. 51).



Map 4 - Accommodation facilities in Luís Correia, Piauí. Source: by the author (2020).

The number of second homes in Luís Correia is high compared to other coastal towns (MARTINS FILHO, 2014). Based on IBGE data (2010), Martins Filho (2014) states that the percentage of households in occasional use is 27.91% for Luís Correia, 10% for Cajueiro da Praia and 3.53% in Parnaíba. Unfortunately, there are no current systematized data, but this percentage corresponds to that observed in fieldwork across the region. In Ilha Grande and Parnaíba, this phenomenon is not as

noticeable and does not occupy areas in such an obvious way.

There are no records on Luís Correia's F&B establishments and travel agencies in previous surveys in the municipality. However, in 2020, fifty-eight F&B points were inventoried; there were no emissive or receptive tourism agencies. The lack of agencies in the municipality appears to be due to its heavy dependence on Parnaíba, which is the place of arrival of most tourists who visit the coast.

The distribution of accommodation and F&B facilities follows the same pattern and is concentrated on the most accessible beaches. The formation of three nuclei is evident: at Praia de Atalaia, at Praia do Coqueiro, and in the axis between the beaches of Macapá and Maramar. The other stretches of Luís Correia's seafront have difficult access, limiting the visitation and infrastructure development. Land concentration by the speculative market is also a limiting factor for the increased occupation of the coastal strip.

CAJUEIRO DA PRAIA

In the municipality of Cajueiro da Praia,[18] tourist activity has become "essential for the municipal economy due to the jobs generated in the service provision sector" (BARBOSA and PERINOTTO, 2011, p. 54). The Barra Grande district concentrates most of the municipal tourist infrastructure and is already considered by some authors as the principal tourist destination on the Piaui coast (CUNHA) et al., 2016). Furthermore, the district manages to maintain medium and high accommodation occupancy rates for about nine months of the year, consolidating tourism as Barra Grande's primary source of revenue (CUNHA and SILVA, 2018). On a municipal scale, the main economic activities are fishing, shrimp farming, and tourism (SILVA, 2013).

The district of Barra Grande adopted a different dynamic from the other localities on Piauí's coast and bet on the Sports,[19] Adventure[20], and more recently, Gastronomic Tourism segments[21] to attract a more elite profile of tourists. Rodrigues et al. (2019) confirm the large flow of tourists in Barra Grande seeking "adventure, sports, and ecotourism tourism. One can mention, for example, sports such as kitesurf, stand up paddle, canoeing, recreational fishing, and free swimming, besides visiting the seahorse trail" (RODRIGUES et al., 2019, p. 57).

The first visitors to Barra Grande were daytrippers and tourists, mostly from Teresina and Parnaíba in Piauí, and Ceará, from Jericoacoara and Camocim (MACÊDO and RAMOS, 2013). For Macêdo and Ramos (2013), the introduction of kitesurfing in 2005 was decisive in determining the profile of local tourism in Barra Grande. It was based on the vision of the businessman Ariosto Ibiapina who, recognizing the sport's development in Jericoacoara, on the coast of Ceará, opened an inn catering to kitesurfers.

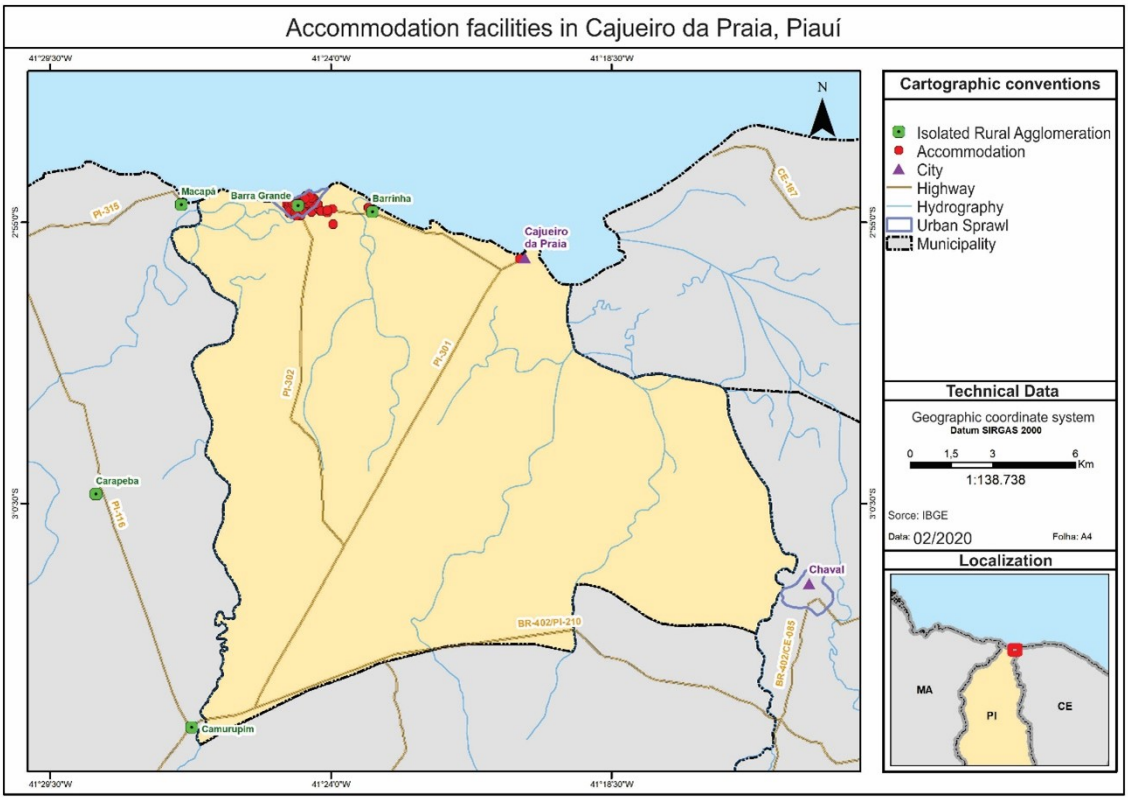
Thus, over the last fifteen years, the municipality's tourist infrastructure catering primarily to kitesurfers has been concentrated in the district of Barra Grande. The first quantitative records of hotels were by Carvalho (2010), Costa (2009), and Macêdo and Ramos (2013). Carvalho (2010) states that there were only four inns in the district in 2001. These data were updated by Costa (2009), who counted that, by 2006, Barra Grande beach had a total of five inns. In 2009, "the number of inns rose to nine, totaling 164 beds. In 2010, 13 inns were present, offering up to 242 beds" (MACÊDO and RAMOS, 2013, p. 97). Carvalho (2010) connects the increase in beds to the respective growth in the number of tourists between 2001 (four existing inns, with a total of 31 Housing Units (HUs)) and 2007 (113% increase in the total number of HUs) and the expansion in the number of tourists from 1,941 (2001) to 4,134 (2007).

Data collected in 2009 consolidate the idea of constant growth in the tourist infrastructure in the village of Barra Grande. Carvalho (2010) asserts that by July 2009, the village had nine inns, some of an international standard, in addition to a reasonable structure of bars and restaurants on the main beach. Moreover, the district was already considered a reference for kitesurfing in the following year, attracting practitioners from various Brazilian states and overseas (CARVALHO, 2010).

Besides sports, from the beginning, tourism in Barra Grande has differed from that practiced in Luís Correia and Parnaíba. In 2005, the public in the district was already seeking alternatives to the Mass Tourism and Sun and Beach models offered in the neighboring municipalities. So, "the main motivation behind visits to the location was the search for the tranquility found in the municipality.

Tourists went to the municipality to "escape" from the parties and celebrations offered by the neighboring municipality, Luís Correia" (CARVALHO, 2010, p. 478). Other characteristics of Barra Grande's visitors highlighted by Cunha (2016) are the high purchasing power of Brazilian and foreign tourists and the standard of the inns and restaurants adapted to serve this public.

The option of targeting tourism products and services to a specific audience had positive effects for local businesspeople. In all sources and research consulted, the increase in establishments has been constant since 2001, when the district had four accommodation units (CARVALHO, 2008). In 2006 there were five (COSTA, 2009), in 2009, nine (CARVALHO, 2010), in 2010, thirteen (MACÊDO and RAMOS, 2013), twenty-six in 2015 (SILVEIRA, 2016), and in 2020 there were sixty-three (MAP 5).



Map 5 - Accommodation facilities in Cajueiro da Praia, Piauí. Source: by the author (2020).

Despite the concentration of tourist activity primarily in Barra Grande, Barrinha, a village 3 km away from the district, is already beginning to receive tourist developments and have its own tourism identity. Although the village center's beaches are still seldom visited, it is in the initial stage of offering natural tourist attractions such as manatee and seahorse observation, the largest cashew tree in the world, and bathing on its pristine beaches. In 2019, there were sixty-three F&B projects, a large volume of establishments compared to other municipalities on the coast of Piauí.

IDENTIFICATION, CHARACTERIZATION, AND ANALYSIS OF THE USED AND NEGLECTED TERRITORIES BY TOURISM ON THE COAST OF PIAUÍ

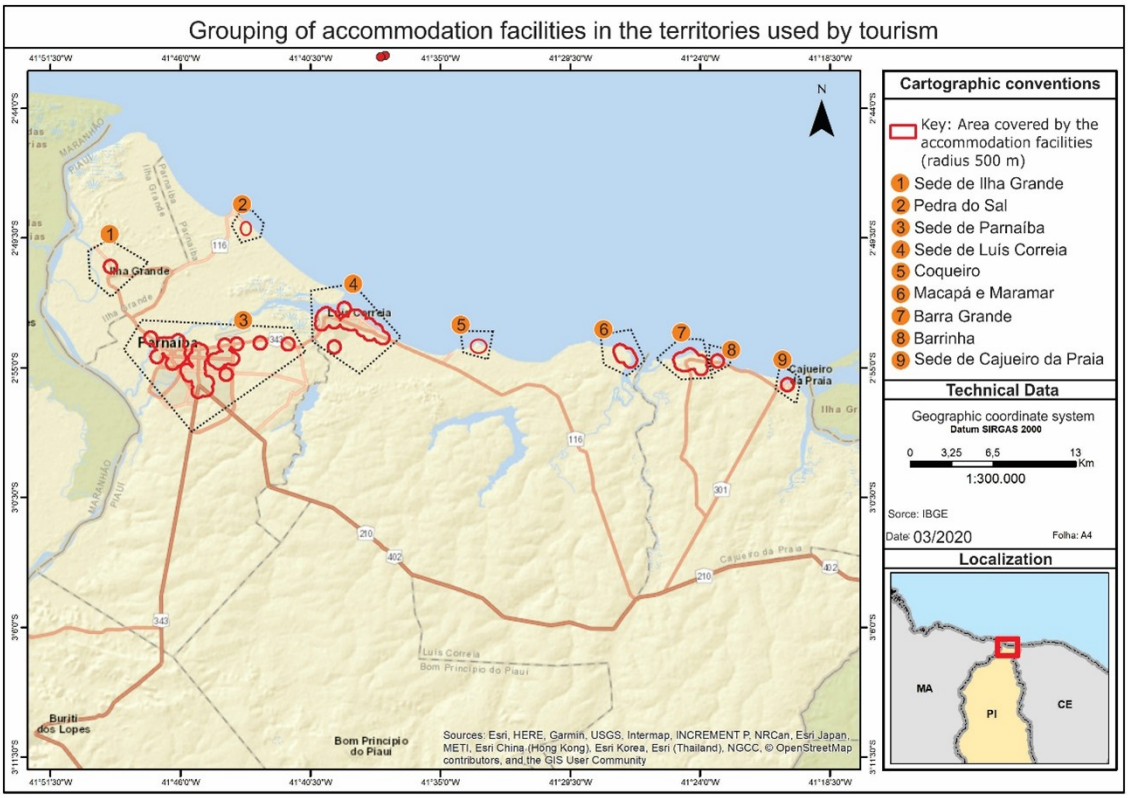
According to prior theories by Cruz (2005), Santos and Silveira (2001), and Castrogiovanni (2013), as they have urban equipment and concentrate public facilities and services, the four municipal seats above are considered territories used by tourism. Their urban contours virtually coincide with the accommodation units (MAP 6) and the F&B services (MAP 7) and are represented by the areas "1 - Ilha

Grande's municipal seat", "3 - Parnaíba's municipal seat ", "4 - Luís Correia's municipal seat" and "9 - Cajueiro da Praia's municipal seat ". The four municipal headquarters are tourism reference points, as they have most of the basic infrastructure such as airports, bus stations, banks, supermarkets, and others. However, each plays a different role in the dynamics of tourism in their municipalities.

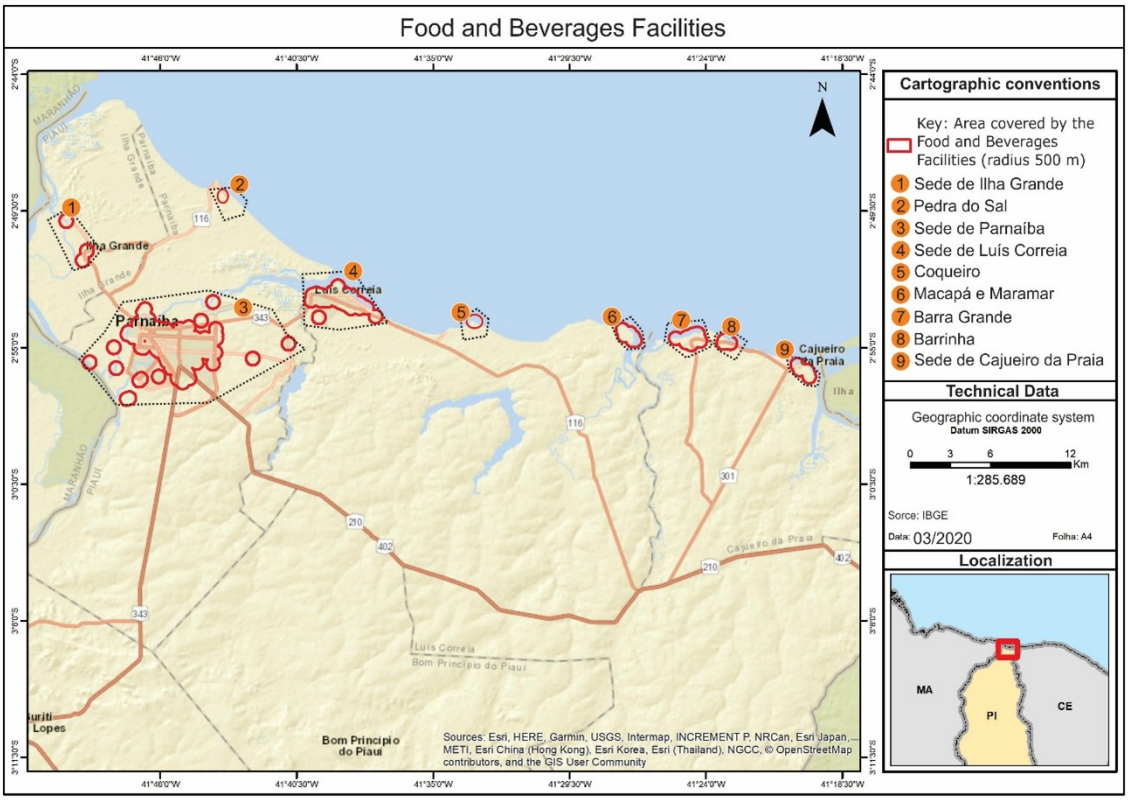
In Parnaíba city, corresponding to the point "3 - Parnaíba's municipal seat" (MAPS 6 and 7), tourism's characteristics are aimed at the business, health, and education. The municipal seat concentrates most of the infrastructure and is an essential support point for the movement of tourists on a regional scale. Unlike neighboring municipalities, the F&B structures and accommodation facilities operate regularly throughout the year, with no sudden fluctuations caused by the high and low seasons. Nevertheless, Rocha et al. (2019) emphasize that "a greater articulation of the state and municipal scope is necessary to benefit [tourist] activity in the municipality of Parnaíba" (ROCHA et al., 2019, p. 715), again highlighting the issue of isolation as an obstacle to local development.

In Ilha Grande, "1 - Ilha Grande's municipal seat" (MAPS 6 and 7), most of the movement involves daytrippers. Thus, the center is still just a place people pass through and has little tourist infrastructure. The circulation of visitors and the handcraft trade are concentrated in this small portion of the municipal territory, which is like a "dormitory city" from Monday to Friday and, on weekends, receives visitors on route to the Parnaíba Delta.

In the municipality of Luís Correia, "4 - Luís Correia's municipal seat" (MAPS 6 and 7), the movement of tourists and most of the F&B and accommodation units are on the seafront. This reflects the demand for Sun and Beach Tourism, second residences, and the mass and seasonal leisure industry predominant in the municipality. Due to seasonality, most F&B ventures cannot offer a continuous good-quality service throughout the year, and research shows that the high prices charged are incompatible with the services provided (SILVA, 2013). Most waterfront restaurants are only open on weekends, and more than half have closed or have been abandoned.



Map 6 - Grouping of accommodation facilities in the territories used by tourism. Source: by the author (2020).



Map 7 - Grouping of F&B facilities. Source: by the author (2020).

Unlike the municipal seats mentioned above, in Cajueiro da Praia (point "9 - Headquarters of Cajueiro da Praia") (MAPS 6 and 7), there are few signs of tourist activity in the municipal seat. Instead, tourism is concentrated in Barra Grande (point "7 - Barra Grande") (MAPS 6 and 7), and the center plays a supporting role in providing basic services to residents. Since the 2010 description, little has changed in Cajueiro da Praia. At that time, there was the base of the Manatee Marine Project, and "observation tourism is still beginning in the locality, which only has three inns of a family character" (CARVALHO, 2010, p. 457).

Following the above presentation of the municipal seats, we move on to describe the other five territories and their respective identification points.

The district of Parnaíba known as Praia do Pedra do Sal, is located approximately 21 km from the municipal seat and 16 km from Ilha Grande's municipal seat (point "2 - Pedra do Sal") (MAPS 6 and 7). It is the only beach in the municipality that receives visitors, and the community has long demanded basic sanitation and urbanization works in the area, which may reflect the residents' faith in construction projects as a tourism development solution. The unregulated occupation of the seafront, its precarious conservation, the poor aesthetics of the local bars and restaurants, the constant accumulation of garbage, and the wind generators surrounding the area are in stark contrast with the curves of the beach framed by rock formations and small fishing boats.

The Coqueiro territory, "5 - Coqueiro" (MAPS 6 and 7), includes the beach and the neighborhood in Luís Correia of the same name. The neighborhood's urban area has many holiday or second homes, bars, and restaurants. The higher status of the public that frequents this territory is reflected in the high standard of accommodation facilities and restaurants. The visible features in this territory, especially close to the seafront, are designed to cater to an elite public, and according to Castrogiovanni (2013), they stand out compared to the other territories due to their pleasing visual impact.

The territorial portion called “6 - Macapá e Maramar” is located on the border between the municipalities of Luís Correia and Cajueiro da Praia. Tourism here follows similar patterns to "Coqueiro," but it was occupied later and is at an early stage of the composition of a territory used by tourism.

The beach and the district of the "7 - Barra Grande" territory are the areas with the highest flow intensity and the most tourism-induced transformations in the municipality of Cajueiro da Praia and even the coast of Piauí. The rise of visitors in this territory has already been felt in Luís Correia, as businesspeople from the territories "4 - Luís Correia's headquarters", "5 - Coqueiro" and "6 - Macapá and Maramar" have noticed a decline in the number of visitors. However, the decline in tourism in Luís Correia is strongly associated with the diminishing model of Sun and Beach Tourism, while the relative success of Barra Grande is partly due to the decision to invest in segments such as Sports Tourism (kitesurfing and windsurfing), Adventure Tourism and Ecotourism . This territory has the highest density of accommodation and F&B establishments, concentrating almost more of these tourist infrastructures than Parnaíba, the second-largest city in Piauí. Unlike most of the coast, Barra Grande is a destination amid a boom in tourist activity.

The Barrinha territory ("8 - Barrinha") is an even more elite tourist destination than Barra Grande. However, the reality has changed from Carvalho's (2010) description: "the villages of Barrinha and Morro Branco do not have any accommodation, but they have several deserted beaches and unique scenic beauty, which, if structured, could attract many tourists, stimulating the local economy" (CARVALHO, 2010, p. 457). Currently, Barrinha has several accommodation units and F&B services.

A comparison of the F&B and accommodation maps shows two main aspects. First, the areas are practically coincident. Secondly, the distribution of the F&B establishments is slightly more dispersed than the means of accommodation. Unlike the accommodation used exclusively by tourists, F&B equipment caters to local residents and tourists. The accommodation units were concentrated in the high-end areas of the municipalities, close to tourist attractions and access roads. Even though they follow a similar pattern, F&B equipment is also found in the periphery of the four municipalities' urban areas.

When analyzing the total sum of the accommodation units, it is evident that these structures have undergone a process of distribution and deconcentration between 2015 and 2020. Although, until 2015, there was a greater concentration of lodging facilities in Parnaíba (BORGES, 2018), this scenario became more homogeneous by 2020. Parnaíba continued to receive new developments but did not keep up with the intense pace of Luís Correia and Cajueiro da Praia, which practically doubled their hotel capacity in five years. Nevertheless, even with different tourism segments in their territories, all four municipalities increased their A&B infrastructure and accommodation facilities (FIGURE 1).

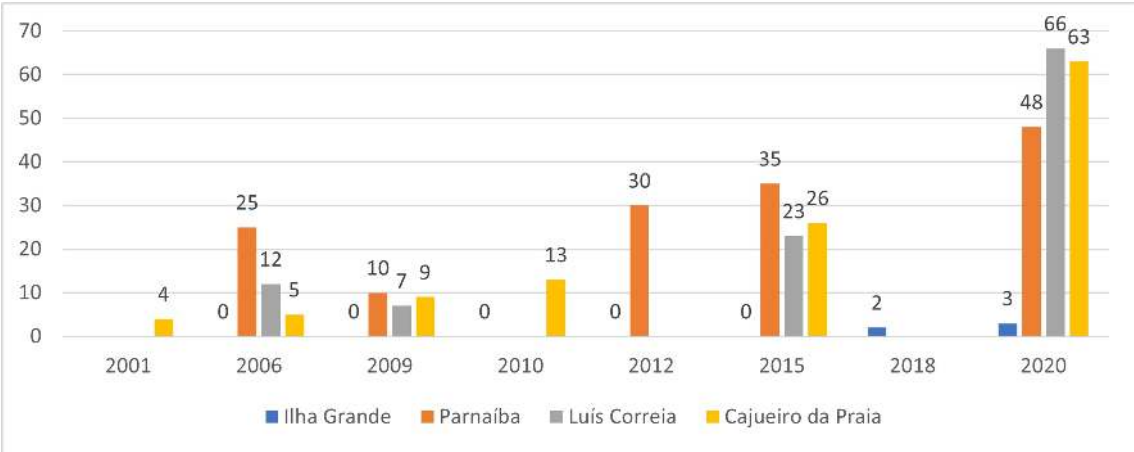


Figure 1 - Quantitative evolution of the accommodation facilities by municipality on the coast of Piauí.
Source: by the author (2020).

The growth and distribution of hotels and inns in the municipalities on the Piauí coast occurred with little interference from the municipal and state public authorities. None of the municipalities have tourism plans, and there are no planned marketing actions or any public effort to publicize or organize tourism activity on a regional scale. The existing infrastructure's distribution is evidence of this scenario, as it is the local markets' reaction to existing tourist demand. Given the lack of planning, the number of hotels has only kept up with the growing demand in recent years. The F&B equipment has followed the

same trend but was also influenced by the Parnaíba's tremendous economic growth between 2010 and 2020. Borges (2018) points out that "in 2011, the city of Parnaíba grew the most in Brazil, reaching a growth index of 229%" (BORGES, 2018, p. 193). In a survey carried out in 2014, Martins Filho (2014) highlights how Parnaíba polarizes infrastructure, services, and the region's population.

The existing polarization in Parnaíba is still taking place and partly reflects the dialogical relationship between each municipality's general characteristics and how tourist activity behaves in each one. The dialogical relationship between basic and tourist structures is also one component that outlines and shapes the nine territories presented here. The lack of infrastructure in Cajueiro da Praia, Ilha Grande, and Luís Correia may explain why tourism occupies the municipal territories so restrictedly and only consolidates itself in spaces with "bubbles" of basic and tourist infrastructure. These “bubbles” are the nine territories used by tourism and delimited on the map as the territories of Ilha Grande, Pedra do Sal, Parnaíba, Luís Correia, Coqueiro, Macapá and Maramar, Barra Grande, Barrinha and Cajueiro da Praia.

CONCLUSIONS

Each of the four municipalities on the Piaui coast has vastly different characteristics, and because of this, their role in regional tourism also differs. In this context, following this study's objective, it was possible to analyze the impacts of tourism in the coastal region of Piauí as a force that produces space, to understand the dialogical relationships between this activity's conditions and impacts when it occurs without planning and management on a local and / or regional scale.

Generally, it was possible to present each municipality's characteristics and how these influence tourist activities. Ilha Grande is the smallest and newest of the coastal municipalities, and in the regional tourist dynamics, it currently functions simply as a transit point without any tourist infrastructure; it depends on Parnaíba for basic services. However, Ilha Grande is the starting point for one of the main tourist attractions in Piauí: a tour of the Delta do Parnaíba.

The municipality of Parnaíba is the major regional urban center of the Rota das Emoções and has the most significant diversity of hotels, restaurants, and travel agencies. It acts as a center for services, commerce, health, and education, with much of the local dynamic revolving around these activities. Luís Correia has most of the beaches and is the state's consolidated sun and beach destination. Tourist activity in Cajueiro da Praia is concentrated in the district of Barra Grande. By gambling on an elite public focused on the Adventure and Sports Tourism segments, Barra Grande is emerging as one of the main tourist destinations on the coast of Piauí.

Based on the data collected, there is a dialogical movement between the supply of services in the coastal municipalities versus the tourists' demand for these services and between each municipality's particularities versus the lack of regional integration. The Polo Costa del Delta, a project capable of bringing coastal municipalities together and offer joint tourism development actions, still has incipient actions. There is no regional coordination for simple projects such as organizing intercity transport logistics, events' calendars, or implementing basic and tourist infrastructure.

As each municipality offers a type of service, if coordination were implemented, it would be possible for the Piaui coast to offer a diversified product and encourage tourists to stay longer. When the Pole has been developed effectively, the government and local businesspeople may cease reacting to tourism and start planning its the coordination and development. Likewise, the municipalities need to stop viewing each other as competitors and recognize that they are all part of the same Delta Coast Pole tourism product.

The fragmentation of actions and planning is also reflected in the territories used by tourism. Usually, they do not communicate and have distinct dynamics even in relation to other territories in the same municipality, as is the case of “Pedra do Sal” versus “Sede de Parnaíba”; “Luís Correia Headquarters” (with Atalaia Beach) versus “Coqueiro” versus “Macapá and Maramar”, and “Barra Grande” versus “Barrinha” versus “Cajueiro da Praia seat”. Isolated between territories neglected by tourism, these areas have relations of dependency, as is the case of the "Sede de Ilha Grande" with the "Sede de Parnaíba," but there is no collaboration and integration. The dispute over tourists makes these very distinct areas competitors, hindering the development of tourism and related activities.

Finally, according to the proposed objective, it was possible to identify the relationship between demand and the organization of tourism infrastructure in some areas of the municipalities and depict them as territories used by tourism. In the territories used by and for tourism on Piauí's coast, this study ascertained the marks left by tourist activity in the space, the fragmentation caused by the territories' selectivity for tourist use, and the traces of the reactive actions of the public authorities, residents, and businesspeople in the face of the tourists' demands. Based on the analysis herein, it is hoped that this research may support the decision-making of local public authorities, residents, and businesspeople concerning the social and environmental impacts of tourism.

NOTES

1- Observation includes tourist facilities and how easy it is to move between them and other points of interest on the part of tourists (CASTROGIOVANNI, 2013, p. 388).

2- The aesthetic impression caused by residential and commercial uses, green areas, industrial areas, and the ordering of the elements that make up the city's cartography, among others. The use of different urban spaces by different segments must be assessed as well as the environments (remarkable pathways that make a pleasant impression. It can be a set of buildings, the design of the sidewalks, the crown of a large tree, or the afforestation of stream banks.) (CASTROGIOVANNI, 2013, p. 388).

3- They are the impressions and feelings that the landscape suggests from an architectural viewpoint, its presentation, its (re)construction inserted in time and the spatial fabric (CASTROGIOVANNI, 2013, p. 388).

4- Afforestation, water, sewage, paving, lighting, public sanitation, public or private transport, running water, etc. (CASTROGIOVANNI, 2013, p. 389).

5- Restaurants, bars, theaters, information centers, hotels, banks, parks, squares, communications, gas stations, tire shops, pharmacies, souvenir shops, craft centers, etc. (CASTROGIOVANNI, 2013, p. 389).

6- Signposts, urban orientation maps, park benches, bus stops, streetlights, flower boxes, garbage bins, kiosks, green corridors, curb cleaning, playgrounds in the squares, etc. (CASTROGIOVANNI, 2013, p. 389).

7- Estimated population for 2020: 9,457 people; GDP per capita (2018): R$ 7,744.85; MHDI (2010): 0.563. Source: IBGE Cities (2021).

8- Estimated population for 2020: 153,482 people; GDP per capita (2018): R$ 12,787.32; MHDI (2010): 0.687. Source: IBGE Cities (2021).

9- The listed goods are grouped into five sectors, namely: Porto das Barcas and Galpões Portuário; the Praça da Graça Complex; the Conjunto Avenida Getúlio Vargas; the Santo Antônio Square and the Railway Station (CLEFFS et al. , 2019, p. 8).

10- The Business and Events Tourism segment comprises the set of tourist activities resulting from meetings of professional, associative, institutional, commercial, promotional, technical, scientific and social nature (BRASIL, 2006, p. 45).

11- The segment of studies and exchange: "Tourism of Studies and Exchange is constituted of the movement tourism generated by activities and learning programs and experiences for the purposes of qualification, expansion of knowledge and personal and professional development "(BRASIL, 2010, p. 15).

12- The Health Tourism segment consists of tourist activities resulting from the use of facilities and services for medical, therapeutic and aesthetic purposes (BRASIL, 2006, p. 52).

13- Between 2020 and 2021 the flights were suspended by Azul for a few months due to the COVID-19 pandemic.

14- Estimated population for 2020: 30,438 people; GDP per capita (2018): R$ 10,137.26; MHDI (2010): 0.541. Source: IBGE Cities (2021).

15- Sun and Beach Tourism "consists of tourist activities related to recreation, entertainment or rest on beaches, due to the joint presence of water, sun and heat" (BRASIL, 2006, p. 43).

16- ARAÚJO and CARVALHO, (2013, p. 2) highlight aspects of mass tourism as the "highlight of the tourist's moderate cost-per-day expenses; consumption of first-class services and equipment, but not luxury; means of transport included in the packages; shorter route and stay; less superfluous travel expenses during the holiday period; occupation of mid-level hotels; and widespread use of the credit system to finance the trip". Regarding tourists' behavior, the authors state that mass tourism "keeps tourists isolated from a welcoming environment and from local communities and promotes travel in guided groups. Its participants find pleasure in contrived attractions with little authenticity, as they only enjoy a "pseudo-event" and forget the real world".

17- "The stallholders on the beaches of the Piaui coast lament the low frequency and drop in sales that are far below expectations for the 2020 carnival". Source: Jornal 180° newspaper (2020).

18- Estimated population for 2020: 7,674 people; GDP per capita (2018): R$ 10,776.62; MHDI (2010): 0.546. Source: IBGE Cities (2021).

19- Sports Tourism comprises tourist activities resulting from the practice, involvement or observation of sports (BRASIL, 2006, p. 26).

20- Adventure Tourism comprises tourist movements resulting from the practice of recreational and non-competitive activities (BRASIL, 2006, p. 39).

21- Gastronomic tourism can be defined as "an aspect of cultural tourism in which the displacement of visitors occurs for reasons linked to the gastronomic practices of a given location". (GÂNDARA, GIMENES, and MASCARENHAS, 2009, p.181)

22- "Ecotourism is a segment of tourist activity that uses, in a sustainable way, natural and cultural heritage, encourages its conservation and seeks the formation of an environmental awareness through the interpretation of the environment, promoting the well-being of the populations". (BRASIL, 2006, p. 8).

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