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### **Cicloturismo e turismo de eventos esportivos de ciclismo na Estrada Parque Piraputanga / Mato Grosso do Sul, Brasil: possibilidades de desenvolvimento local**

**Resumo.** O ciclismo é uma atividade esportiva e de lazer com acelerado crescimento em todo o território nacional. No Brasil, há falta de dados que denotem o potencial econômico dessa modalidade esportiva, bem como os setores diretamente e indiretamente afetados, como o turismo. A partir desse pressuposto, esta pesquisa teve como objetivo identificar a percepção dos ciclistas sobre o potencial turístico da APA Estrada Parque Piraputanga para o desenvolvimento do cicloturismo e do turismo de eventos esportivos de ciclismo. Os procedimentos utilizados inicialmente nesta investigação se pautaram numa pesquisa bibliográfica e análise documental. Posteriormente, realizou-se uma análise exploratória *in loco* visando desvelar a infraestrutura local. Essa pesquisa baseou-se numa proposta de abordagem quali-quantitativa, sendo aplicado um questionário *on line* com ciclistas utilizando-se a técnica de bola de neve. Com questões abertas e fechadas, foram analisadas questões fechadas por meio de porcentagem simples e as abertas, com a aplicação da técnica de Análise de Conteúdo (AC) de Bardin (2011). Como resultado, revelou-se na percepção dos cicloturistas, que há necessidade de investimento na melhoria da infraestrutura para o turismo em geral. Por fim, detectou-se que a APA Estrada Parque Piraputanga possui potencial para o desenvolvimento local, por meio do segmento do cicloturismo e turismo de eventos esportivos de ciclismo.

**Palavras-chave:** Cicloturismo. Percepção. Desenvolvimento Local. APA Estrada Parque Piraputanga

### **Cycling tourism and cycling sport events tourism on the Estrada Parque Piraputanga/ Mato Grosso do Sul, Brazil: possibilities for local development**

**Abstract.** Cycling is a sports and leisure activity with accelerated growth throughout the national territory. In Brazil, there is a lack of data denoting the economic potential of this sport modality, as well as the sectors indirectly affected, such as tourism. From this assumption, this research had as a general objective to identify the perception of cyclists about the tourism potential of APA Estrada Parque Piraputanga, an Environmental Protection Area, for the development of cycling tourism and cycling sport events tourism. The procedures used initially in this investigation were based on a bibliographic research and documental analysis, followed by an exploratory analysis *in loco*. After initial procedures, this research was based on a quali-quantitative approach, with the application of an on-line questionnaire with cyclists using the snowball technique. The questionnaire had closed and open questions, which were analyzed by simple sampling, as well as the application of the technique of Content Analysis (CA) of Bardin (2011) for the open question. As result, in the perception of the cycle tourists there is need for investment in improving the infrastructure for tourism in general. Finally, it was detected that APA Estrada Parque Piraputanga has potential for local development through the segment of cycling tourism and cycling sport events tourism.

**Keywords:** Cycling Tourism. Perception. Local Development. Estrada Parque Piraputanga (Environmental Protection Area)

## **Cicloturismo y turismo de eventos deportivos en Estrada Parque Piraputanga / Mato Grosso do Sul, Brasil: posibilidades de desarrollo local**

**Resumen.** El ciclismo es una actividad deportiva y de ocio con un crecimiento acelerado en todo el territorio nacional. En Brasil, faltan datos que denoten el potencial económico de esta modalidad deportiva, así como de los sectores indirectamente afectados, como el turismo. A partir de este supuesto, esta investigación tuvo como objetivo general identificar la percepción de los ciclistas sobre el potencial turístico de la APA Estrada Parque Piraputanga, un Área de Protección Ambiental, para el desarrollo del turismo de ciclismo y del turismo de eventos deportivos de ciclismo. Los procedimientos utilizados inicialmente en esta investigación se basaron en una investigación bibliográfica y un análisis documental, seguidos de un análisis exploratorio in loco. Después de los procedimientos iniciales, esta investigación se basó en un enfoque cuali-cuantitativo, con la aplicación de un cuestionario en línea con ciclistas utilizando la técnica de bola de nieve. El cuestionario tenía preguntas cerradas y abiertas, que fueron analizadas por muestreo simple, así como la aplicación de la técnica de Análisis de Contenido (AC) de Bardin (2011) para la pregunta abierta. Como resultado, en la percepción de los cicloturistas existe la necesidad de invertir en la mejora de la infraestructura para el turismo en general. Finalmente, se detectó que el APA Estrada Parque Piraputanga tiene potencial para el desarrollo local a través del segmento del cicloturismo y del turismo de eventos deportivos de ciclismo.

**Palabras clave:** Cicloturismo. La percepción. Desarrollo local. APA del Parque Piraputanga.

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### **Introduction**

Cycling is a sport and leisure activity with rapid growth throughout the national territory. According to data from Aliança Bike - Brazilian Association of the Bicycle Industry (2021), in 2020 there was a 118% increase in bicycle sales compared to 2019, which caused a new demand for services in this segment. There are several reasons for this growth, including the need to prevent the agglomerations of Brazilian urban transport during the pandemic context of Covid-19, the growth and improvement of bicycle lanes in urban centers, their use as leisure and sport among others. In relation to this growth in the sector, there was an increase in solitary cycling events, by small and large groups in urban areas and on tourist roads or connecting rural areas close to large urban centers.

These facts are proven by the groups of cyclists identified in several small, medium and large cities in the country. In a diagnosis of the social medias in Campo Grande /Mato Grosso do Sul State, more than thirty different cycling groups were identified in the period between March and August of 2021. The numbers are relevant and there is no way to estimate the number of cyclists in the State or in the Capital, as they are not data from public transport management about that, as well as from the private sector. It was detected in social media groups, that there is a significant increase in this pandemic period of Covid-19.

Among the highlights of the segment growth, there are numbers and facts that clash with the lack of infrastructure planning for this mobility and means of transport. According to the Brazilian Association of Traffic Medicine – ABRAMET (2020), in the period between 2010 and 2020 (ten years), four hundred and fifty-two (452) cyclists died as a result of being run over, placing the State of Mato Grosso do Sul, in the 7<sup>th</sup> position in number of cycling accidents in the country. The excessive number of accidents led to the creation of the Law No. 5,683/2021, published in the Diário Oficial of the State of Mato Grosso do Sul on July 2<sup>nd</sup> 2021, which has as its main objective the awareness and protection of cyclists, with the motto of leisure in their item III, which refers to encouraging the use of bicycles as a sport, leisure and recreational activity.

In Brazil, there is a lack of statistical data denoting the economic potential of this sport, as well as the sectors indirectly affected, such as tourism. In Europe there are data that support the understanding of the sector. According to Neun and Haubold (2016), the EU Cycling Economy (EUCE), estimated that in global terms, cycling in the European Union provides economic impacts around 513 billion euros annually. In the United States, according to the Outdoor Industry Association (OIA), in 2017, Americans spent 67 billion euros in expenses directly related to cycle tourism.

The economic impacts in Europe and the United States guided the perspective of this investigation, from the perspective of local development in the State of Mato Grosso do Sul. Based on the data investigated in Europe and the United States, the investigative path was expanded in order to understand the routes, itineraries and travel planning carried out by groups of cyclists using bicycle transport in the state. It was identified that the groups organize routes and trips to different local and rural roads around Campo Grande and 'Estradas Parques' and important tourist destinations such as Bonito, Rio Verde, Costa Rica among others.

In this primary research, carried out in groups of cyclists, the Environmental Protection Area Estrada Parque Piraputanga was detected as an important receiving center for cycle tourists, and the formation of cyclists' groups with travel itineraries with overnight or full day tour<sup>1</sup> to the region. It was also identified that before the Covid-19 pandemic, sporting events related to bicycles were held in the region by private companies with support from the Municipal Tourism Secretariat of Aquidauana.

Estrada Parque Piraputanga (MS 450), in its section located within the Environmental Protection Area of the same name, is a recreational and functional road, which has a scenic landscape in the transition between 'cerrado' biome and 'pantanal' biome in the State of Mato Grosso do Sul. It is a mobility alternative, on a short part of BR 262 road where there is its main entrance gate towards the 'Pantanal Sul'. It is located in the rural area of three municipalities, linking an area of farms and small farms that extend from the municipalities of Dois Irmãos do Buriti, to the district of Camisão belonging to the municipality of Aquidauana.

Estrada Parque Piraputanga, has a part of 42.5 km in length, with a vast diversity of fauna and flora, around the 'Serra de Maracaju', being cut by pastures, sandstone hills, rivers, waterfalls and other geographic features, constituting in its tourist infrastructure reduced number of food and beverage service, accommodation and other tourist services.

The road has natural resources with tourist potential of all levels, being the contact with the natural and rural environment, a differentiated experience. After the completion of its paving in 2020, there was an increase in the number this road users.

In the observation made for this investigation in loco, it was found that there was an increase in local traffic, and that this region is able to provide projects aimed at community entrepreneurship, even from the needs of tourist services caused by the increase in the regional tourist flow of cyclists and cycle tourists. In this sense, it is assumed that Estrada Parque Piraputanga has attracted a relevant number of tourists and cycle tourists, but has little basic and tourist infrastructure, necessary for the development of local tourism.

From these first analyses, this research had as general objective to identify the perception of cyclists about the touristic potential of Estrada Parque Piraputanga for the development of cycle tourism and tourism of cycling sport events. Furthermore, this study aimed to carry out an in loco analysis of the critical and favorable points of the tourist potential of Estrada Parque Piraputanga, aiming at possible improvements for the development of infrastructure for the practice of cycle tourism and cycling sport events tourism. It starts from the premise that cyclists and cycling competitors have the perception that the Estrada Parque

Piraputanga, located in the Environmental Protection Area, has a deficiency in infrastructure for tourism in general.

In the construction of this research, three phases of investigation were used as methodology, firstly the bibliographical one, having as motto an exploratory analysis, and later a qualitative-quantitative approach with application of an online script (questionnaire) with open/closed questions. Based on the current notes, this research, after this introduction, presents the following sequence of structure, theoretical framework, methodological procedures, results analysis and discussion and finally the conclusion.

### ***Cycle tourism segment***

Associated with the phenomenon of world cycling, tourism with the use of bicycle transport is a growing segment in Brazil. This statement, corroborated by Aliança Bike (2020), is able to aggregate full day and/or half day tours<sup>ii</sup> in tourist circuits in urban centers, as well as travel itineraries with overnight and/or not, aimed at prospecting economic, social and cultural development in communities, districts and towns located along roads in tourist regions in the interior of the country.

The activity has been researched in the national territory for some years, such as Roland (2000), Cavallari (2012), Carvalho, Ramos & Sydow (2013), Cochisnki, Baptista & Goveia (2014), Edra, Costa & Fernandes (2015), Abreu, Baltar & Santos (2020), Rosa, & Silva (2020), Sartori (2021), Souza & Carvalho (2021), Saldanha, Freitas, Balassiano & Fraga (2020), with the purpose of developing the activity, the tourist potential of places, infrastructure analysis, urban planning, the tourist experience among other objects of study. According to the research carried out by Teixeira & Edra (2020), the segment is also known by some definitions and all denote the activity as tourism with the use of bicycle transport in urban areas and/or outside it, implying rural areas, local and tourist roads among others.

In order to facilitate the understanding of the object of study, the term “cycle tourism” was chosen, which is more recognized and widespread in the national tourist scene. Complementing this reflection, Lamont (2009, p.11) discusses four directions in which cycle tourism can be characterized. The first one for the “experience that takes place far from the person’s city”; the second one for “extending cycle tourism in a single day or in a single trip over several days”; the third one, understand that “the nature of the cycle tourism activity is not competitive”; the fourth one, that “cycling is the main reason for the trip”, and finally, that “cycling is a form of recreation or leisure”.

According to Simonsen & Jorgenson (1996), cycle tourism is a market segment that has characteristics that meet a new demand for travel and has grown in many countries. Teixeira & Edra (2020) emphasize that the segment that uses the bicycle can be understood through the bias of two sub-segment criteria, namely “urban cycle tourism” and “cycle trip”. These two definitions are extremely important to define the tourist product and the possibilities for investment in infrastructure for the development of the territory.

Telles (2018) differentiates the two types of activity, naming them as conventional cycle tourism and urban cycle tourism. The same author (2018) highlights that cycle tourism is related to trips of one or more days, passing through rural environments and staying overnight in different locations. Gehl (2015) mentions that cycle trip is slower, allows the cycle traveler to experience the space through the cultural and social dynamics of the stretch covered, through the senses.

Conventional (urban) cycle tourism has other characteristics, as according to Telles (2018), many tourists use bicycle transport to get to know a city and its main tourist attractions. Also, regarding this modality, Gehl (2015), points out that tourists combine one or more tourist activities, such as going to the beach, parks etc., experiencing street life, culture, the subject and their place, with the use of the bicycle.

The cycle tourism tours extend the stay of visitors in destinations and communities, encouraging the community protagonism in the sphere of tourist activity. Furthermore, associated with responsible planning, it can become a complementary source of income for families and encourage territorial development (Gonçalves, 2018).

Related to the cycle tourism segment, there is also the potential for the development of sport events tourism. According to Bonfim and Teles (2017, p. 4), sport events tourism “is not a recent segment, as it is correlated with some facts of world history, including the Industrial Revolution and the emergence of the Olympic Games in Brazil”. The same authors (2017, p. 4) argue that sport event tourism consists “in the displacement of people to places with tourist attractions correlated to sport activities, with the purpose of actively participating or not, or just as spectators”. Sport events tourism provides opportunities for the creation and improvements of infrastructure and has socioeconomic impacts on the territory where the event takes place, due to the movement of spectator tourists and competing tourists.

It should also be considered that there is tourism for sport events linked to the means of bicycle transport, namely “road cycling”, “track cycling” and “mountain bike”. Road cycling, according to the Brazilian Cycling Confederation (CBC, 2021), is a sport, identical to a race, but with the use of a bicycle, normally played on roads. Track cycling is a sport, originated from road cycling, however, performed on specific tracks such as velodrome (CBC, 2021). According to the same confederation, mountain bike is a sport that aims to traverse a certain route with several irregularities and obstacles on unpaved tracks.

After the notes and reflections, it is noted that sport events have an important characteristic, of moving many competitors and spectators out of their place of residence in order to participate and honor the sport, with the use of a chain of tourism services where the tourism is accomplished.

These events related to cycling have played an extremely important role in tourist regions that promote sport events as generators of tourist flows, such as Eco Pantanal Extremo<sup>iii</sup> (Fundesporte, 2021), Piraputanga Adventure<sup>iv</sup> and Desafio Piraputanga das Araras de MTB<sup>v</sup>. In this way, it is understood that cycle tourism and tourism of sport events related to cycling are able to boost economically, socially and culturally a given tourist space.

In the case of these two segments in common, the development of tourism related to the means of bicycle transport in a given territory contributes to the growth and improvement of other tourism segments. According to Pedrini, Flores and Calvacante (2012), cycle tourism is close to the adventure tourism and ecotourism segments. Other segments can emerge when there is potential to be explored in a territory, such as rural and gastronomic tourism.

Soares (2010) argues that bicycle tours value the gastronomic specificities of a region, given the needs of cycle tourists to consume and taste the local cuisine, thus stimulating gastronomic tourism. From the perspectives mentioned, it is understood the impacts arising from the development of this segment in the territory.

According to Araújo, Temoteo, Andrade and Trevisan (2017, p. 6) in relation to development, two lines of thought can be observed from the economic perspective, “one of which, with theoretical nature that considers development as synonymous of economic growth”; and the second one meets plural and empirical criteria which are “added to growth indicators that

may reflect improvements in people's living conditions, such as: health, education, safety and environmental quality". Thus, when it comes to tourism and local development, Salvatierra and Mar (2012) emphasize that tourism projects must be focused on the individual and collective interests of social actors in the territory, thus, they must be based on endogenous strategies, which aim at meeting the reality of local society.

This statement supports the understanding that development must be based on generating present and future benefits for social actors in that territory. In the case of rural villages, districts and other places with tourist potential, the assumption of local development must be made viable in a participatory way, with the involvement of future entrepreneurs, workers and public policies. In this sense, small business in the territory should be valued, respecting the history, culture and local environment.

The tourist activity has a wide spectrum of sectors directly and indirectly affected, it is in this logic that short, medium and long-term actions must be planned in a participatory manner. In the case of cycle tourism, according to Faulks, Ritchie and Fluker (2007), cycle tourism has specific facilitators that favor its development. The same authors (2007) mention the participation of the bicycle in the modal division; sale of bicycles; presence of organizations with the ability to facilitate the growth of the cycle tourism through the development of public policies.

Among public policies that aim at development, Faulks et al. (2007) discuss the promotion of cycle tourism, support to cycling service providers, development of maps and itineraries for cycle tourism, identification of the main routes and infrastructure projects such as parking for vehicles on the roads and places for technical stops<sup>vi</sup>. These notes also serve as a guide for cycling sport events tourism, however, there is also the support of providers and event organizers according to the three modalities practiced worldwide.

In the development of tourist activity, the emergence of a series of favorable and unfavorable impacts on society and territory is common. Krippendorf (1999), Rodrigues (1999), Ignarra (1999) and Swarbrooke (2000) highlight the physical-environmental, cultural, social and economic impacts arising from the tourist activity, especially when there is unplanned tourist development. According to Rodrigues (1999), the idea of sustainability in the development of tourist activity is utopian, given that there is an economic predilection in discourses and narratives, as well as in the process of developing tourism projects without proper support from experts.

Rodrigues (1999) also highlights that the continuous discovery of natural and historical landscapes is the motto to be made viable as tourist attractions, therefore, to be sold. In this understanding, the nature and its differentiated landscapes are one of the most desired tourist products to be consumed in modern times. The main favorable impacts of tourism are related to economic indices, income generation, cultural valuation and infrastructure improvement. However, in the process of tourism development, the negative environmental and social impacts are the most striking in a territory. Thus, the development of tourism related to cycle tourism and cycling sport events also have conditions to cause a series of impacts, which must be prevented with a series of strategies in the local tourism development plan.

According to Carvalho, Ramos and Sydow (2013), cycle tourism has a character of travel with multiple destinations, where cyclists have as a precept to enjoy the services and territorial tourism infrastructure, and the main motivation is precisely the route. In this sense, Estradas Parques (Road Parks) are understood as important tourist destinations for the development of cycle tourism and cycling sport events due to its particularities related to the environment protection and conservation.

### ***Estradas parques (road parks) and tourism***

The first discussions on the creation of Estradas Parques (Road Parks) in Brazil occurred in the 1980s. In 1982, Estradas Parques were already seen as a category of conservation unit with complementary management, even provided for in the Conservation Unit System Plan (Brasil, 1982). At that time, there was no support from the current legislation that could provide legal provisions to substantiate a category that established any type of Conservation Units in the national territory. The first step was in 1988 with the promulgation of the Federal Constitution, considering that in art. 225, § 1 is highlighted in item III that all federation units must define

territorial spaces and their components to be specially protected, the alteration and suppression being allowed only by law, any use that compromises the integrity of the attributes that justify their protection is prohibited.

However, with the enactment of Law 9,985, July 18<sup>th</sup> 2000, Estradas Parques were not included in the National System of Nature Conservation Units (Sistema Nacional de Unidades de Conservação da Natureza – SNUC), but some Brazilian states have included the category 'Parques Estradas' in their state systems (Pinto, Salvio, Oliveira & Gomes, 2020).

One of the regulatory events occurred in 2008, through the Inter-ministerial Ordinance by the Ministry of Environment/Ministry of Tourism No. 282, September 9<sup>th</sup> 2008. In this ordinance, the objective of creating Estradas Parques was defined, mainly with regard to managing and maintaining the road or highway (or part of it) and its landscape in a natural or semi-natural state, providing recreational and educational uses. In art. 2<sup>nd</sup> was considered Estrada Parque (Road Parks),

the part of road that, inserted in a federal conservation unit, has characteristics that make its use compatible with the preservation of local ecosystems, the enhancement of the landscape and cultural values, and also that encourage environmental education, conscious tourism, the leisure and socioeconomic development in the region where it operates. (Ordinance No. 282, September 09<sup>th</sup> 2008).

Estradas Parques already established or in the process of being created, are favorable places for the development of tourist activity, taking into account the precepts of use, sustainability and local development. In this way, Estradas Parques have potential to be explored in the national touristic scenario, as it aims to develop tourism in districts, villages and communities in the interior of Brazil, mainly in regions where different models of conservation units are established. They are an option for local economic development, as well as for the preservation of cultural identity and the environment where they are located, since the principles of sustainability are adopted, bearing in mind that full sustainability is something utopian. For Soriano (2006), in cases in which they are considered by state and/or municipal legislation as conservation units, Estradas Parques can be classified as a category of sustainable use, based on their management objectives.

Silva (1996), Barros (2000), Soriano (2006) argue that there are differences in definitions for the conservation unit known as Estrada Parque, considering that it is recent in Brazil and little debated. According to the aforementioned authors, all Road Parks (Estradas Parques) have some common aspects such as linear conservation areas, roads of high scenic, cultural or recreational value (paved or unpaved), areas that include the need for protection around the roads, the landscape, the environment (natural, semi-natural, cultural, areas of high heritage value, historical and cultural, socioeconomic, areas of public and private domain).



Dourojeanni (2003, p.2) affirm that the Law No. 9,985/2000 on the National System of Protected Areas (SNUC), does not provide about Estradas Parques as a category. In the inventory carried out by Okada, Lima & Lima (2020), there are in Brazil a total of 54 Estradas Parques, distributed in 13 (thirteen) States and Federal District.

According to the State Registry of Conservation Units - Cadastro Estadual de Unidades de Conservação – CEUC (Imasul, 2021), in the State of Mato Grosso do Sul, indicated by the Law No. 4,219/2012, there are two Environmental Protection Areas (APA) called Estradas Parques. Both are located in the Tourist Region of Pantanal, including Estrada Parque Piraputanga, object of this study, and Estrada Parque Pantanal. The APA called Estrada Parque Piraputanga was established in 2000 through the State Decree 9,937/2000 (June 5<sup>th</sup> 2000), located in the municipalities of Dois Irmãos do Buriti (15.69% of the area), Aquidauana (83.12 % of the area) and Anastácio (1.20% of the area), which can be seen in the figure 1.

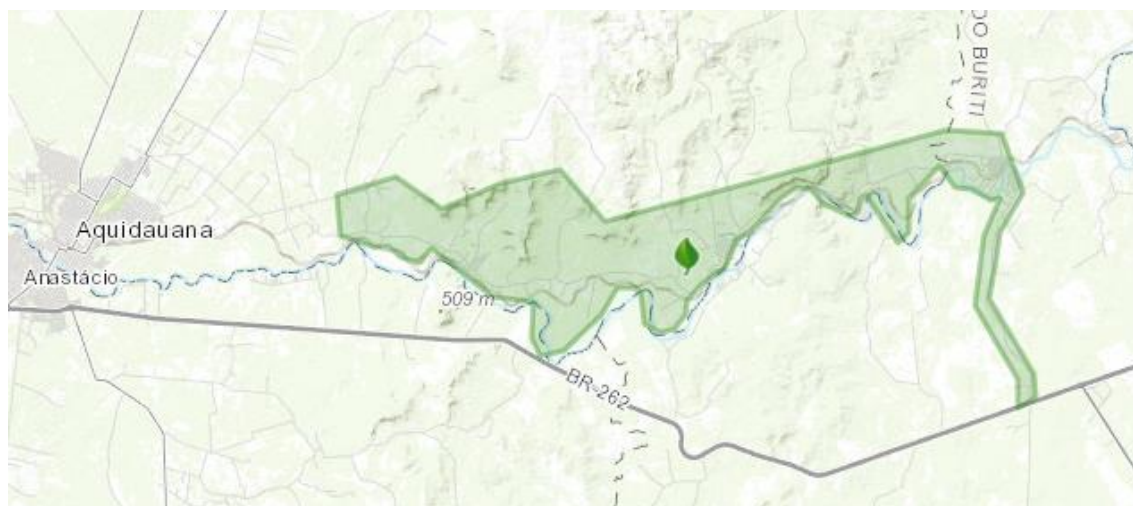


Figure 1 – APA Estrada Parque Piraputanga - Environmental Protection Area  
Source: uc.socioambiental.org (2021)

Chávez, Santos, Ayach & Rodrigues (2020, p. 273) argue that “this protected area was created with the objective of protecting the landscape, ecological and cultural heritage, promoting the recovery of the hydrographic basin of Aquidauana River and Serra de Maracaju”. Thus, among the main strategic values of the State, it is considered to promote the rational use of natural resources for Estradas Parques. Based on the principles of sustainability, at the time of creation (State Decree 9,937/2000), it was considered that

[...] the region has a high aesthetic, archaeological, historical and cultural value, sheltering an expressive diversity of landscapes and ways of life.

[...] the need of protecting the geographic spaces inserted in the hydrographic basin of Aquidauana River and the abiotic sites of sandstone formations of Serra de Maracaju;

[...] the need to adequately represent conservation units in the Estradas Parques category, which is part of the State System of Conservation Units.



From the moment that this territory was considered an Environmental Protection Area, a series of prohibitions and activities that could cause damage to fauna, flora and the transformation of the natural space were also established. According to Article 8 of the Decree, the current Secretary of State for the Environment (Secretaria de Meio Ambiente, Desenvolvimento Econômico, Produção e Agricultura Familiar - SEMAGRO), which has the support of the Environmental Institute of Mato Grosso do Sul (Instituto de Meio Ambiente de Mato Grosso do Sul – IMASUL), is responsible for the management and inspection of the Estradas Parques. There is a community participation (advisory council), composed by 9 (nine) members who are responsible for ensuring compliance with the management plan of the Environmental Protection Area, suggesting measures to ensure the conservation of the environment and the responsible use of natural resources, including projects for tourism that aim at local development. According to Silva, Ayach (2021, p. 52), Estrada Parque Piraputanga “plays a relevant role as an attraction for local development, mainly through tourism, since it is an area of great landscape and ecological potential resulting from its great biodiversity”.

In this way, the tourist potential of Estrada Parque Piraputanga is able to promote regional tourist flows in a first moment after the structuring of local tourism. In the future, according to the infrastructure improvements, there are concrete possibilities to establish it as a new national destination, in conjunction with Bonito and also Pantanal in the same route. A variety of tourist segments can be explored together as nature tourism (ecotourism and its sub-segments such as bird watching tourism, adventure tourism), cultural tourism, event tourism, rural tourism, fishing tourism and among them, cycle tourism.

### ***Methodological Procedures***

In view of the tourist potential of Estrada Parque Piraputanga, this research had as a theoretical framework the systemic study adapted to cycle tourism by Lamont (2009). Based on the production of researches on cycle tourism and its impacts, including local development, the present investigation was initially based on bibliographical research and documental analysis.

According to Gil (1994), bibliographical research allows to have lot of information, allowing the use of dispersed data in numerous publications, aiming to help in the construction, conceptualization and possible dimensions of the object of study. Fonseca (2002) complements this statement, mentioning that the bibliographical research is carried out based on surveys of theoretical references that have already been analyzed and published by written and electronic means, such as books, scientific articles, web site pages among others.

Then, an exploratory analysis was carried out in loco, considering the extension, territorial complexity and diversity of attractions and infrastructure of the Estrada Parque Piraputanga located in a zone and transition strip between two biomes, Cerrado and Pantanal. According to Gil (2007), exploratory research aims to improve the hypothesis, validate instruments and provide familiarity with the field of study. From the initial notes of the justification and objective of the research, this work was based on a proposal with a qualitative-quantitative approach. Flick (2004) points out that the convergence of quantitative and qualitative methods aims to give more credibility and legitimacy to the results found, avoiding reductionism to just one option.

The exploratory study in loco was based on a qualitative analysis, with the aim of carrying out a diagnosis of the basic and tourist infrastructure, focusing on the development of cyclist tourism. Together with it, a survey was carried out with a group of cyclists, in a qualitative-quantitative approach, aiming to unveil the perception about the object of study.

As a sample selection criterion, the perception of cyclists of all age groups living in the State of Mato Grosso do Sul was sought. This criterion was used, considering that Estrada Parque Piraputanga is a local tourist product with little national visibility and still little explored by tourism activity. The sample is “intentional non-random”, which, according to Oliveira (1997) and Marconi and Lakatos (2017), is intentionally chosen by the researcher. The data collection technique was based on the application of a question guide through an online form that generates the results in real time in an Excel mathematical spreadsheet.

Initially, six cyclists were contacted through groups of “cyclists” for the purpose of the initial investigation. If the respondent did not have knowledge and/or had visited Estrada Parque Piraputanga, he was excluded from the next surveys. The respondent who had already visited and who knew the road, could have access to the other questions in the research.

Subsequently, the snowball technique was used, where the initial participants indicate new participants online. The data collection was carried out from May to August 2021, supported by closed/objective questions and an open question. This technique was used due to the pandemic context of Covid-19, that started all over the world since the beginning of 2020.

The questions in the script had social and economic criteria as a dimension, aiming to unveil elements of the profile of the cycle tourist, his mobility, safety and tourism needs, focusing on the road park located in rural areas and its tourist potential. Thus, the methodological procedures of this research were outlined in the following research stages, as detailed in the figure 2.

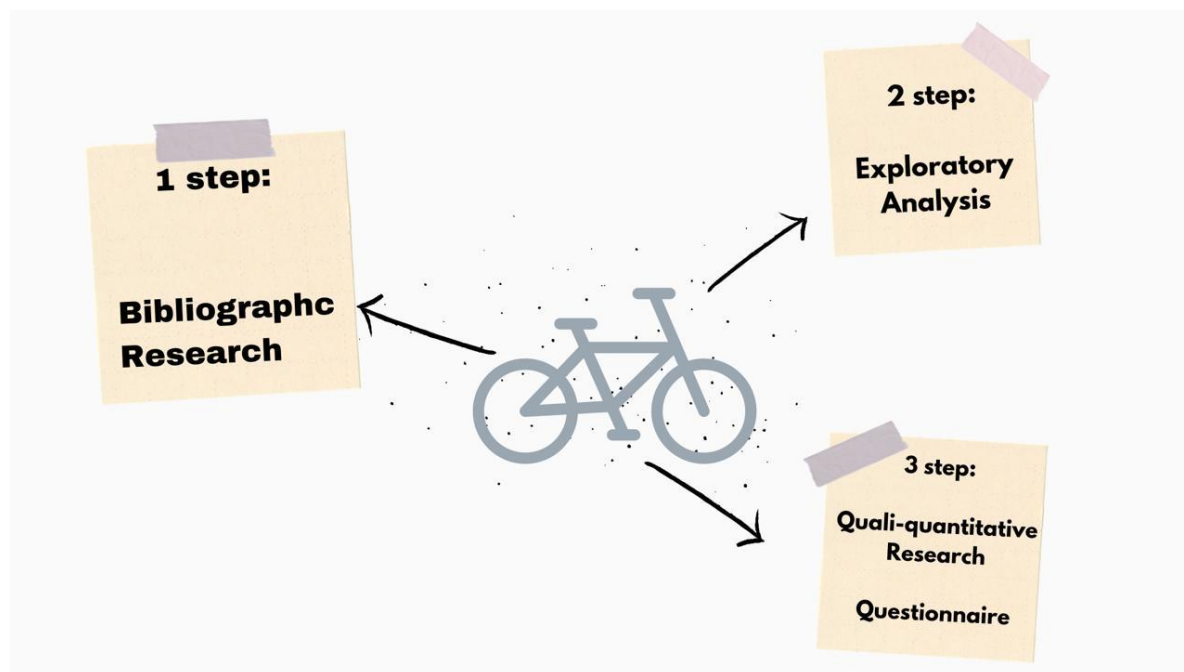


Figure 2: Research Stages  
Source: the authors (2021)

From this procedure, data tabulation of closed, objective and quantitative questions was started by simple sampling. The open question was analyzed using the technique of Content Analysis (CA) by Bardin (2011). According to Bardin (2011) it consists of decoding through a cut, aiming to aggregate and enumerate, based on clear rules about textual information.

## Data analysis and results discussion

After applying the interviews with the cyclists, an expressive result was obtained in relation to the tourist potential of the Estrada Parque Piraputanga. From the 214 respondents, 96.3% informed that they are cycling practitioners in various modalities. In this way, 96.3% of respondents had access to the following question, providing for a higher quality of the non-random sample.

The second question was aimed at detecting among the interviewees (cyclists and cycle tourists) whether they already knew and/or know about Estrada Parque Piraputanga. In this second clipping, 206 people answered the question, with 65% of respondents knowing and 35% not knowing and/or never having been to Estrada Parque Piraputanga. With this result, establishing a new cut-off line, only 134 cyclists were able to take the second and last part of the questionnaire. This initial result expresses a significant number of people who have already been to Estrada Parque Piraputanga at some point for tourist leisure activities and/or tourism, thus evidencing the tourist potential of the territory under investigation. From this initial result, the second stage of the research has detected the profile of the cyclist and/or cycle tourist, as well as obtain elements of their perception in relation to the object of study. Regarding the profile of the interviewees, the following sample was obtained as shown in figure 3.

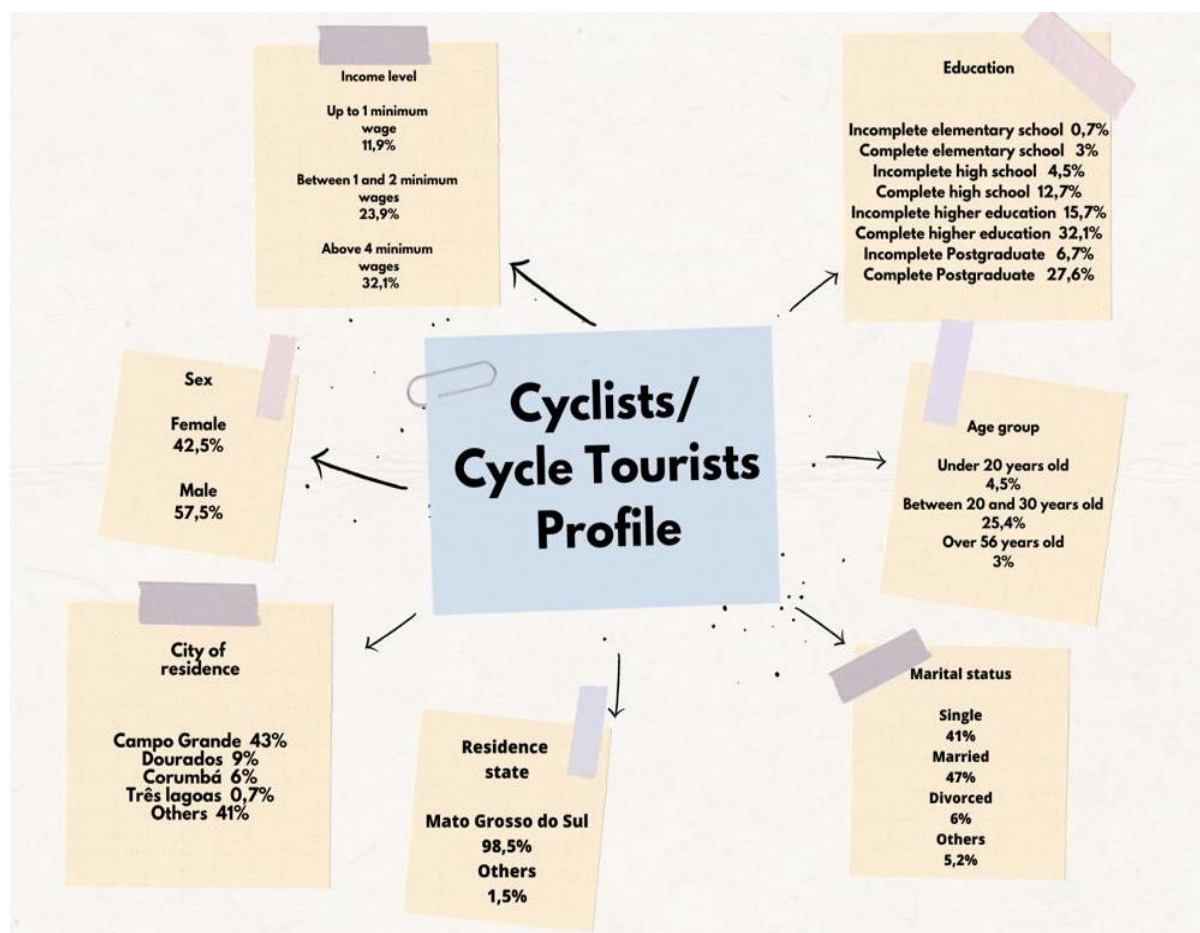


Figure 3 – Cyclists/ Cycle Tourists Profile  
Source: the authors (2021)

From the 134 final respondents, 57.5% are male cyclists and 42.5% female, demonstrating gender equality among practitioners of the sport. From these, 41% are single, 47.8% are married, 6% are divorced and 5.2% did not inform. These data indicate an equitable and distributive percentage of the marital status of cycling practitioners.

Still outlining the profile of the cyclist interviewed, 34.3% are between 31 and 40 years old, 32.8% between 41 and 55 years old, 25.4% between 20 and 30 years old, with only 4.5% under 20 years old and 3% over 55 years old. These data demonstrate an adult population that practices cycling. In relation to the level of education, 32.1% have completed higher education, 15.7% incomplete higher education, 27.6% have completed Postgraduation and 6.7% incomplete postgraduation. These data are important, as in the sum of this level of education, 82.1% have more than 11 years of schooling. In this way, there is a group of cyclists with a high level of education considering the national scenario. Regarding the level of income, 32.1% have a family income above 4 minimum wages, another 32.1% have an individual income between 2 and 4 minimum wages, 23.9% between 1 and 2 minimum wages and a reduced number, 11.9% have less than the 1 minimum wage. The income level of the interviewees corresponds to a profile of middle class and upper middle class, which corresponds to investments in sports, as both the means of transport by bicycle and clothing, accessories and safety equipment have a high cost. This information in the survey is extremely necessary, considering the purchasing power of this segment for the purchase of tourism products and services.

From the respondents, 98.5% live in the state of Mato Grosso do Sul and only 1.5% are from other states. From those who live in the state, 41.3% are from Campo Grande, 9% from Dourados, 6% from Corumbá, 0.7% from Três Lagoas and 41% live in other cities of the state. These data yield a positive result, since cycle tourism has this connotation of proximity trips, with full day and short-term trips, that is, with reduced accommodation nights, such as weekends.

After outlining the profile of the cyclist, the second investigation aimed to identify the perception of cyclists about the Estrada Parque Piraputanga and the development of cycle tourism and sport events related to cycling. The first question was aimed at detecting how long respondents had been practicing the sport. From the 134 of the respondents, 29.1% have practiced the sport for more than 5 years, with 18.7% between 3 to 5 years, 32.1% between 2 to 3 years and 20.1% less than 1 year. These data demonstrate the growth of the sport in recent years, even revealing that 20.1% started to practice cycling during the Covid-19 pandemic period. The sport entails some important characteristics, as it maintains isolation and social distance and also it makes people to practice regular physical activity.

The following question was aimed at investigating whether they practice cycling and also cycle tourism, that is, whether they take advantage of the sport to get to know and experience new experiences in different tourist places. 79.1% of respondents said yes, and 20.9% no. The number is relevant as it indicates a relatively robust number of cyclists who seek to practice the sport in new landscapes seeking tourism as a leisure activity, thus giving rise to the development of new tourist segments. From this total, 95.5% still report that they are interested in cycle tourism and only 4.5% are not interested.

When asked about sport events related to the modality, from the 134 respondents, 97% are interested in cycling events and only 3% do not. About the events related to the use of the bicycle, it was asked which modalities are of interest. Thus, 75.4% are interested in Mountain Bike events, 32.8% in Road Cycling and 4.5% in BMX (Bicycle Moto Cross). These data show that sport events related to cycling are able to generate an interesting tourist flow in the territory.

In addition, 53.7% of the respondents are interested in cycling activities focused on touristic tours combining visits to tourist attractions in the destination. This information was extremely important, as it serves as a basis for tourism managers from Aquidauana and Dois Irmãos de Buriti to create sport events together at the Estrada Parque Piraputanga. However, it is necessary to plan the event with the participation and/or not of the private initiative, but

with some requirements, including that the sport event takes place with various modalities, allowing for at least one night stay in the locality, thus boosting the economic impacts of tourism.

The information obtained in the previous question corroborates for the interviewees' perception on the tourist potential, as 100% of the 134 interviewees answered that the road has potential for the development of cycle tourism and sport events related to cycling. The final stages of the research aimed to identify through the perception of the cyclists the importance of basic infrastructure projects necessary for the development of the cycle tourism on the Estrada Parque Piraputanga, which is the responsibility of the State Government of Mato Grosso do Sul, with authorization from SEMAGRO. The data are described in table 1.

Table 1 – Perception on infrastructure projects

| Type of Projects   | It is not Important | Little Important | Important | Very Important | Extremely Important |
|--|---------------------|------------------|-----------|----------------|---------------------|
| Implementation of signaling for cyclists and motor vehicles                | 0,7%                | 1,5%             | 5,2%      | 9%             | 83,6%               |
| Implementation of tourist signaling  | 0,7%                | 0,7%             | 6%        | 13,4%          | 79,1%               |
| Implementation of communication infrastructure - telephones, internet etc. | 1,5%                | 3%               | 4,5%      | 10,4%          | 80,6%               |
| Implementation of observatories and technical stops                        | 5,2%                | 4,5%             | 12,7%     | 20,1%          | 57,5%               |
| Implementation of bicycle parking at attraction points                     | 3%                  | 3,7%             | 12,7%     | 22,4%          | 58,2%               |
| Sporting and Cycling Events Calendar                                       | 2,2%                | 3,7%             | 8,2%      | 20,9%          | 64,9%               |
| Implementation of bike lane and support roadsides                          | 1,5%                | 1,5%             | 9%        | 11,25%         | 76,9%               |

Elaboration: the authors (2021). Source: Data Collection Information (2021).

Regarding the implementation of specific signals for cycling and tourism, consequently for motor vehicles, 83.6% of the respondents indicate that it is extremely important and mandatory. According to Abreu et. al. (2020), any threat to the safety of tourists entails a reduction or total absence of the activity. Lamont (2009) also states that for the development of cycle tourism, the signaling structure is extremely fundamental, considering that it allows the cycle tourist to cycle safely and can take advantage of the tourist attractions that exist along the route.

During the on-site visit, it was identified that there is a lack of signals, and that this element can trigger accidents on the road and bring insecurity for cyclists and cycle tourists. This perception is important, because if there is any type of accident on the Estrada Parque Piraputanga with cycle tourists, an unfavorable tourist image may be created, implying the positive impacts of tourist activity, mainly in the economic income. According to Weston,

Davies, Peeters, Eijgelaar, Lumsdon, McGrath, Piket (2012), cycle tourism has a greater impact on the local economy than so-called conventional tourism, especially in regions where it is occasional or non-existent, as it helps to create work and secure the local population with reduced investments.

In relation to tourist signals and specific services for tourist information on tourist attractions, 79.1% of the respondents say it is extremely important, 13.4% very important, 6% important and only 1.4% of the respondents answered it is not important. It should be noted that there is not an inventory of the tourist attractions of the Estrada Parque Piraputanga by the managers. There are only unofficial documents from entrepreneurs and some not official from the Aquidauana Tourism Department.

During the on-site visit, it was initially detected the following attractions that need to be evaluated and ranked, such as Camisão community, Archaeological Sites in the locality of the State University of Mato Grosso do Sul (UEMS), Mirante do Paxixi, Santuário de Nossa Senhora de Aparecida, Furnas do Baiano community, Sandstone Hills and Walls, Trekking Trails, Train Bridge, Streams such as Morcego, Paxixi, das Antas, Piraputanga, Benfica, Ribeirão Vermelho, Laranja and do Rego, as well as waterfalls, fauna and flora (for complementation from cycle tourism to fauna, flora and bird watching tourism). There is even the need for projects beyond tourist signage, especially with a visitation plan that includes information and basic and tourist infrastructure aimed at local entrepreneurship, especially in the traditional communities that live around the APA Estrada Parque Piraputanga.

Another relevant information from the survey was the need to implement emergency support infrastructure for accidents such as telephone towers, internet among others, in which 80.6% report being extremely important, as these are one of the weakest points on the road studied. There are several places during the Estrada Parque Piraputanga with blind spots related to telephony and internet, which have been neglected for tourism. In this sense, there is the need to provide this type of infrastructure by communications companies, duly authorized by the Environmental Protection Area managers, minimizing all possible environmental impacts.

It was investigated about the implementation of observatories and specific technical stop sites for rest and landscape appreciation. 57.5% of the respondents said it was extremely important, 20.1% very important, 12.7% important, 4.5% not very important and 5.2% not important at all. In this case, there is a need to check at least two points that allow a wide contemplation of the landscape, in order to make a tourist spot possible, as well as specific places for the sale of handicrafts, souvenirs, quick snacks, drinks in general that is directed only to entrepreneurship from the local community and not for entrepreneurs from outside the region. This type of infrastructure can be located in the part of route between Camisão and Furnas dos Baianos and another in Palmeiras in the exit to BR 262.

In this sense, the architectural project must prevail the authenticity of the local culture, foreseeing the use of building materials from the region. Sartori (2020) mentions that cycle tourism represents a concrete expression of sustainable tourism, due to the low consumption of natural resources and the involvement with the landscape, both natural and cultural. Regarding bicycle parking, according to the respondents, 58.2% think it is extremely important. The implementation of specific parking for cyclists in tourist attractions and enterprises is very important, considering that cycle tourists will need to park their bikes to have local experiences.

According to the respondents, it is necessary that the Tourism Secretariats invest in a calendar of sport events and specific activities for cycle tourism. These answers appeared as extremely important for 64.9% of the respondents. Finally, the implementation of a bike lane,



as well as support roadsides for motor vehicles/parking in the vicinity of tourist attractions is, in the point of view of 76.9%, extremely important. The bike lane mainly serves beginner and amateur cyclists, considering that professional riders with years of experience, it is common to travel in groups along the roads and highways. The recent completion of the asphalt somehow makes local tourism viable, but the lack of roadsides makes the cycle tourism development a difficult process. There is the need to transform the road into a calm highway, varying some parts where speeds from 30km/h to 70km/h may be allowed to avoid accidents in the locality.

Regarding infrastructure that requires the participation of the private sector with local investments, the perception of cyclists provides some important data, as shown in the table 2.

Table 2 – Perception of infrastructure aimed at local entrepreneurship

| Type of Business  | It is not Important | Little Important | Important | Very Important | Extremely Important |
|---|---------------------|------------------|-----------|----------------|---------------------|
| Bike shops with weekend support   | 1,55                | 5,2%             | 12,7%     | 13,4%          | 67,20%              |
| Bike Rentals  | 6%                  | 8,2%             | 19,4%     | 19,4%          | 47%                 |
| Implementation of Food and Beverage Services (Restaurants, Snack Bars, Bars, Rural Cafes etc. | 0,7%                | 3,7%             | 10,4%     | 19,4%          | 65,7%               |
| Implementation of Lodging Services (Hotels, Inns, Farm Hotels, Hostels etc.)                  | 2,2%                | 3%               | 13,4%     | 22,4%          | 59%                 |

Elaboration: the authors (2021). Source: Data Collection Information (2021).

According to the respondents, regarding tourism infrastructure, especially for new business, there is the need to invest in the following segments such as bicycle shops, bicycle rental shops, restaurants, snack bars, bars, rural cafes and lodging facilities. 67.20% of the respondents think it is extremely important to have bicycle shops in the districts, including service on weekends, 47% of them believe that places that can rent bicycles are extremely important, as many tourists may not have bicycles and find it possible to know the attractions in the locality using this means of transport. Another piece of information is that 65.7% think that new food and beverage services business are extremely important (restaurants, cafeterias, bars, rural cafes among others) and 59% also find new accommodation projects extremely important.

Cavallari (2012) argues that the cycle tourism needs infrastructure in the region to carry out its journey, such as accommodation, bars, bakeries, restaurants and commerce in general. During the on-site visit, a slight increase in the number of restaurants in the locality was detected, as well as other services that can add value to local tourism, such as the establishment of a winery. The new business emerged after the completion of local paving, however, with entrepreneurs from outside the community. This is a worrying fact in the development of tourism, as there is the possibility for investors to buy land, real estate and 'evict' local residents to the urban space. A fact that has already been experienced in other territories with the development of the tourism. However, there is the need to prepare a



strategic plan for this Environment Protection Area that aims at distributing the diversity of local projects, ensuring that the investments are distributed equally and not only in the restaurant and accommodation segments, for example.

Another concern is the feasibility of projects that are not linked to architectural standards that are in harmony with the environment. In this sense, Souza & Carvalho (2021) emphasizes that tourism planning in rural areas must incorporate principles of sustainability, in order to guarantee the autonomy of rural entrepreneurs in the organization of their products and services. In this way, there is a concern about the inspection of SEMAGRO and the role of the advisory council in the functioning of private enterprises, as there may be political interference, mainly from 'dominant' social actors in the territory.

In the Environmental Protection Area (APA) legal information there is no clarity about the performance and constructive release of private undertakings. There is the need for greater regulation, especially for a management plan for all entrepreneurs and to give power for the advisory council of APA Estrada Parque Piraputanga, in the sense of being deliberative. If there is no such requirement, the implementation of a specific law for such acts must be discussed with SEMAGRO/IMASUL.

All these measures must be in accordance with the precepts of the State Decree 9,937/2000 (June 5<sup>th</sup> 2000). Santos, Chaves, Ayach & Rodrigues (2017) corroborate in this sense, that tourist activities should be a priority for the territory, and that a preliminary proposal for an action plan for the development is needed, which mainly addresses the interests of the local population. Finally, the open question of this research aimed to unveil the perception of cycle tourism on the Estrada Parque Piraputanga. With the technique of Content Analysis (CA) by Bardin (2011) there were a series of notes endorsing what was already mentioned in the previous questions. In summary, cyclists point out the need for investment in infrastructure, as mentioned above, and they highlighted the need for investment and education in the preservation of the environment, customs and local cultural manifestations, and especially the landscape.

Finally, it was detected that the Estrada Parque Piraputanga can bet on this segment aiming at development, but it is necessary that the action be participatory with community members, the advisory council, SEMAGRO, IMASUL, FUNDTUR/MS and Aquidauana and Dois Irmãos de Buriti City Halls.

### ***Final Considerations***

It is considered that the objective of this research was achieved and that the premise that cyclists/ cycle tourists have about the Environmental Protection Area Estrada Parque Piraputanga was confirmed. In this sense, there is the need to debate with more emphasis among managers/community/entrepreneurs the directions of public policies and investments in basic and touristic infrastructure for the locality that includes three municipalities and two tourist regions.

It is noted that Estrada Parque Piraputanga has potential for tourism related to the rural environment and its direct relationships with the contemplation of the landscape and the environment, allied to the cultural movements of the local population. In the midst of local development, segments emerge with prospects for new demands from society, especially in modern times of a Covid-19 pandemic period. In this case, cycle tourism emerges as a modality of proximity tourism and sport events tourism as an option for the resumption of economic growth for the territory.

In this interface of options for local development, there is a confluence of other tourist services that demand attention, such as food and beverage and tourist support, see an example of bicycle shops and bicycle rental shops that appeared in the results. It is worth mentioning that 98.5% of the cyclists interviewed are from the State of Mato Grosso do Sul and 65% already know the Estrada Parque Piraputanga. Most respondents are between 31 and 40 years old and presented as a focus, in addition to the practice of the sport, the interest in cycle tourism and tourism sport events related to cycling.

During the on-site visit, it was found that the parts of the road from Palmeiras (Dois Irmãos de Buriti) to Camisão (Aquidauana) has strong potential, since its basic infrastructure needs investments related to the perception of cyclists. According to the respondents' perception, this infrastructure is based on specific signs for tourism and traffic, communication (internet, telephone towers etc.), bicycle shops, implementation of roadsides on the most touristic parts of the road, as well as the implementation of a bicycle lane. These investments are able to contribute to the development of local tourism, as they create the need in tourists to frequent the road.

For local entrepreneurship, there is the need for greater performance by public agencies (Universities, Departments of Development, Environment, among other entities such as SEBRAE etc.) in order to enable a strategic development plan for the territory with the community participation in this targeting. There are concerns with investors outside of the community and that drive social exclusion through the transformation of space and territory, such as: sale of properties by the residents, changes residences from rural to urban, changes in the residents' way of life, changes in the landscape due to architectural styles that are not in harmony with the environment, environmental impacts and the generation of underemployment for the local population. In this sense, this initial research opens up new possibilities for investigation, having as its motto the local population and their perspectives on tourism and the local touristification process, as well as the transformation of space and landscape through tourism.

In the results found, there are limitations in the research, considering that no study was found on the social representations and/or perception of residents about tourism, tourism development and the impacts of local tourism. That is necessary to investigate whether the local community is interested in tourism or whether they want the Estrada Parque Piraputanga to continue being a bucolic, rural place with the characteristics of the interior.

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<sup>i</sup> Full day tour (8 hours or more) through a tourist destination, from a tourist receiving and distributing center.

<sup>ii</sup> Half day tour (4 hours) through a tourist destination, from a tourist receiving and distributing center.

<sup>iii</sup> Eco Pantanal Extremo has been taking place since 2014 in the city of Corumbá, which has Mountain Bike as one of the main sports of the event. (FUNDESORTE, 2019).

<sup>iv</sup> Piraputanga Adventure is a Mountain Bike event organized by AZ Eventos and occurred in May 2021 with the participation of 300 cyclists divided into different categories in the district of Piraputanga and Furnas dos Baianos. Available at: Pantanal in Focus <https://bityli.com/oPso6c>

<sup>v</sup> Desafio Piraputanga das Araras MTB is an event that has already passed the 4th edition. Organized by Attitudes & Aventuras & Desafios, the event is already part of the Mato Grosso do Sul Cycling Federation calendar. Available at: A Crítica <https://bityli.com/2HxT4a>

<sup>vi</sup> Technical Stop is a place with restrooms, sale of food and beverages, bicycle spare parts, souvenirs, maps and other support equipment for tourists and cycle tourists.