

# Profile Analysis and Experiences on the Tourism of Jalapão State Park, Tocantins, Brazil

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**Abstract**—The State Park Jalapão - PEJ proved to be one of the protected areas that has attracted tourists from all over the world with its unique scenic landscapes. Although the region already has a considerable tourist flow, to our knowledge there is a lack of continuity of studies in the region capable of drawing a plan of activities, such as the profile of the tourist and analysis of their experiences in the region, carried out from 2006-2007. Therefore, this study was proposed to know the profile and experiences of tourists visiting the park today, making a connection with the earlier study, in order to generate subsidies to trace improvement actions. We conducted interviews with tourists in the main tourism season 2015. The results show that after eight years of carrying out the first study, there were no changes, highlighting the lack of a tourism plan for the park.

**Keywords**—Jalapão, profile tourist, level of satisfaction.

## I. INTRODUCTION

It is necessary for tourism to be planned and managed in a sustainable manner; consequently, the program must be evaluated, monitored and measured so that to enable the local community to be able to take, and adapt, to the opportunities and changes, respectively.

In the cases of Conservation Units (CU), the planning should be ever the more careful and precise, since the impacts caused by failures, such as lack of planning and in the documentation of records that guide to use of CUs, can be serious.

In the presented view, we highlight that in order to trace the profile of the tourist who visits CUs, and their perception regarding the degree of satisfaction that their visitation has brought forward. Considering this, it is of the utmost importance that we seek conservational strategies for improvement as to lead to adequate touristic flow.

It is essential for one to know about the levels of tourist satisfaction in concerns to the success of a tourist destination. This is a truly important indicator to guarantee future touristic stability. The way to measure this indicator should be through questionnaires (tailored to the destination), with questions about; the tourist attraction, the city, the local community, culture, services, lodging, food, fun, etc. Tourists see these as essential points that relate directly towards their satisfaction [1].

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This research relates to a case study conducted within the State Park of Jalapão – JSP/TO, Brazil, in which, currently, are being studied tools aimed to help the management of sustainable tourism in CUs, based on the aforementioned indicators. This study is currently under development; the presented article aims to present one of the results of this study, which includes an analysis of the profile of JSP, their visitors and their level of satisfaction.

The proposal is part of a project developed at the Federal Institute of Education, Science and Technology of Tocantins - Brazil.

## II. METHODOLOGY

### A. Area in Study

Jalapão is a region located towards the east in the State of Tocantins, Brazil, it comprises one fifth of the state, occupying an area of 34,113 thousand km<sup>2</sup>. There are eight municipalities in the state. In Jalapão, through Federal Law 9,985 of July 18<sup>th</sup>, 2000, CU and ecological were formed to preserve the ecosystem, which is very fragile and rare, in order to foster the development of scientific research and to guarantee sustainable development. One of these aforementioned CU is the Jalapão State Park, that has approximately 150,000 hectares and, this location has attractions such as; dunes, waterfalls, rivers and Fervedouro (Figs. 1-4), all of which promote the practice of ecotourism. So far, it has been explored in a disorderly way and tourist planning has proven ineffective [2].



Fig. 1 The Dunes

Near Jalapão State Park, you can find the municipality of Mateiros, with its 9,681,657 km<sup>2</sup> of territory. The inhabitant count is 2,223 and the population density per inhabitant (kilometers squared) is equal to 0.23 [3]. This municipality is considered the main reception to hold tourists, because of its close location to many of the park's main attractions. The local community is directly linked to tourism activity, whether

the activity is profitable or not for them.



Fig. 2 Serra do Espirito Santo



Fig. 3 Fervedouro das Bananeiras



Fig. 4 Ant Waterfall

The NEATUF/UFT showed serious environmental impacts that had been occurring in the park due to the lack of on-site monitoring. The report also showed the need for further studies to be taken out upon touristic indicators, these could, in turn, be used as a tool for the monitoring, and management, of the CU [4].

### III. COLLECTION OF DATA

The present research had its focus upon a case study concerning the Jalapão State Park – JSP CU, located in the state of Tocantins – Brazil. Beginning in February 2015 and ending in November 2015.

Questionnaires were given to tourists, with both open and closed questions, during the tourism seasons, which have been defined in the study. These questionnaires were given in order to identify the profile of the tourists and their levels of satisfaction derived from their visitation.

## IV. RESULTS AND DISCUSSIONS

### A. The Profile of the Tourists Who Visit the JSP

It is possible to perceive through study of the current research, as shown in Fig. 5 that the gender of tourists who visited the park is fairly balanced, being half male and half female. In relation to the previous survey, we can see how much this has changed, where the balance was 67% male visitors to 33% female visitors [5].

TABLE I  
 PERIODS OF COLLECTED DATA AND THE NUMBER OF INTERVIEWEES

Season/2015	Dates of collection	N° of interviewees
February	12 <sup>th</sup> to 18 <sup>th</sup>	129
April	02 <sup>nd</sup> to 06 <sup>th</sup> 18 <sup>th</sup> to 20 <sup>th</sup>	73
May	01 <sup>st</sup> to 04 <sup>th</sup>	70
June	04 <sup>th</sup> to 07 <sup>th</sup>	75
July	10 <sup>th</sup> to 12 <sup>th</sup> 21 <sup>th</sup> to 26 <sup>th</sup>	87
September	03 <sup>rd</sup> to 07 <sup>th</sup>	96
October	08 <sup>th</sup> to 12 <sup>th</sup>	103
November	03 <sup>rd</sup> to 33 <sup>th</sup>	104
Interviewee total		737

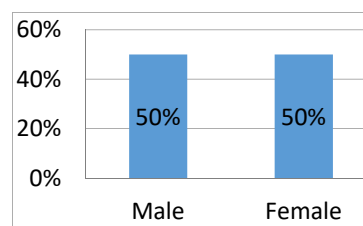


Fig. 5 Visitors by Gender

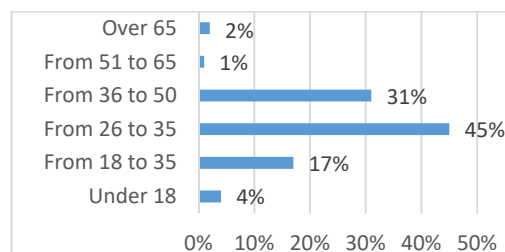


Fig. 6 Age group

The age group of the tourists, in relation to the previous research did not change, as it can be seen in Fig. 6. There is greater detailing of the age of the visitors, where the majority of the people were between the ages of 15 years and 30 years, which represents 46% of the tourists during that time. Now, 45% of the people surveyed were between the ages of 26 years and 35 years; 36% percent were between the ages of 31 years and 45 years and 31% were between the ages of 36 years and 50 years. The remaining 18% covered other age groups in the 2006/2007 survey, while in the current survey this figure shows at 24%.

It is possible to observe in Fig. 7 that most of the tourists who visit the park are from Tocantins, followed by those from the state of São Paulo, Rio de Janeiro and the Federal District.

This data converge with the results found in a survey done in the region in 2006/2007, the origin of most tourists is still the same, the state of Tocantins, at that time, more than half the total number of visitors. However, concerning the total number of tourists, in this last research, 68% of the interviewees were from other states, this fact changes slightly the picture revealed by the current research.

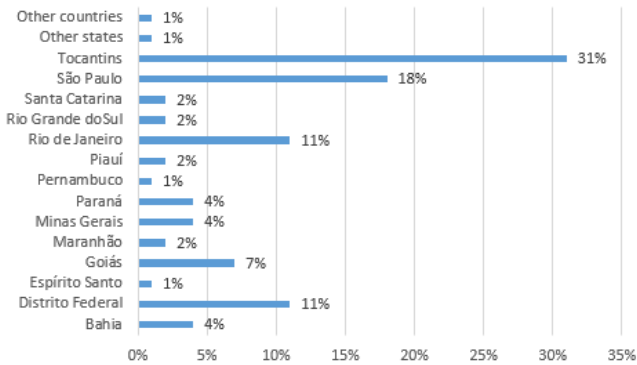


Fig. 7 Visitors' origin state

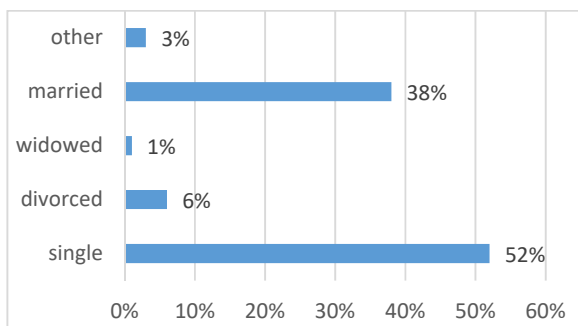


Fig. 8 Marital status

With regard to the marital status of the tourists (Fig. 8), the results show that the majority consists of single people at 52% of the respondents, while 38% are married. Although there is a slight difference in relation to the data from the previous research, it is possible to notice that the difference was only 1% between married and single, but there has still been a greater flow of single people since that time.

Concerning professions (Fig. 9), it is possible to observe that there is a balance between private employees and public employees. However, the majority of tourists come from private employment, which shows that when analyzing the previous research, it is possible to notice that there was a slight change in that item. Based on the current findings, most of the visitors were entrepreneurs (about 23% of tourists), followed by public sector employees (21%), and then by liberal professionals at 20%. This shows us that the majority of people who visit the park possess a high purchasing power, with income higher than R\$ 6.000 (Fig. 10), as in the previous research, this data remains within the same characteristics.

Another fact that confirms this affirmative is the one found in Fig. 11, relating to education, which shows the majority of visitors (66%) to Jalapão have completed bachelor's degree,

compared to the 51% of respondents in the first survey.

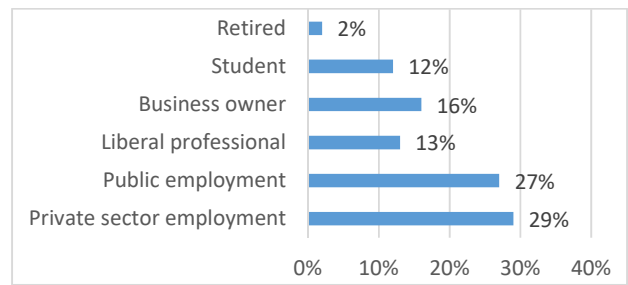


Fig. 9 Profession

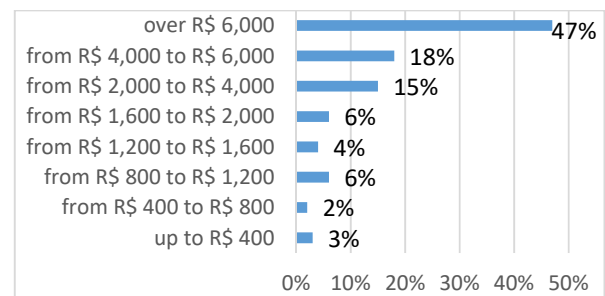


Fig. 10 Individual monthly income

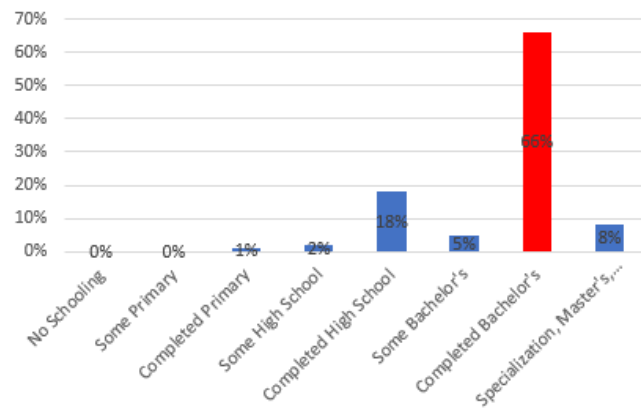


Fig. 11 Education level

## V. CHARACTERISTICS OF THE VISIT

The main reason for tourists coming to Jalapão, as shown in Fig. 12, is to relax and enjoy nature, with 57% of the interviewed visitors choosing this option. In this item, it is possible to notice that there was a change from the previous research, which shows us that 67% of the interviewees sought adventure. This is more evident when looking at Fig. 13, which indicates that 67% of tourists stayed in hotels or inns, thus showing that there was a change in relation to the previous research. It can be seen that most tourists, eight years ago, opted for camping, because this is a characteristic of adventure tourism, and in the current survey only 24% of those interviewed indicated this option.

Regarding what influenced the travel of these tourists to JSP, the results show that the greater majority of the marketing (advertising) activities are informal. In 2007, 33% of

respondents say they came to Jalapão because of the influence of friends or acquaintances who had visited the region. The survey of 2015 (see Fig. 14) showed that 57% of tourists came to visit the park through word of mouth recommendations.

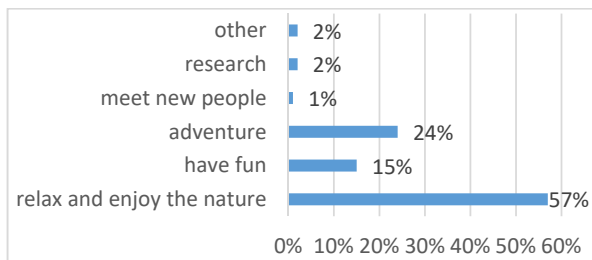


Fig. 12 Main purpose of the visit

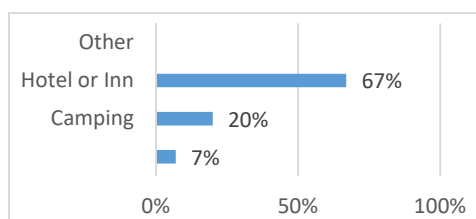


Fig. 13 Type of accommodation

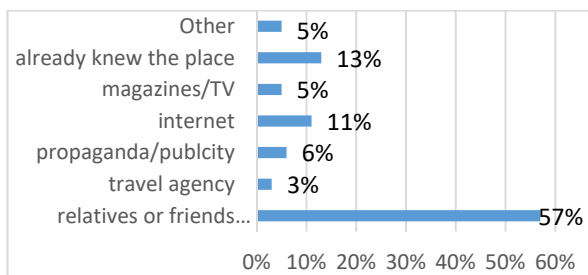


Fig. 14 Motivation for visit

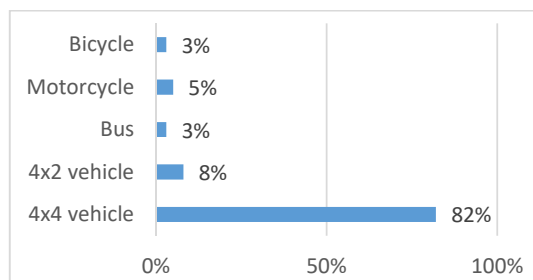


Fig. 15 Means of transportation used

In relation to the means of transportation used to reach this touristic destination, the four-wheel drive vehicle was the most used, by virtue of the poor road conditions and current level of accessibility. As in the previous research, which showed that 63% of visitors used this means of transport, also in the current survey, 82% of respondents said that they used this type of vehicle, as shown in Fig. 15.

In Fig. 16, we can observe that the period in which people remained in the region decreased in comparison to the previous survey, where the majority of people, 39%, stayed for up to four days. Even nowadays, it is possible to observe

that the majority of the tourists do not stay for more than two or three days, demonstrating that it is a travel of short duration. Generally, visitors to Jalapão travel in groups of more than four people (Fig. 17); that is, accompanied by family and/or friends, or by others who prefer to buy packages from tourist agencies and travel to the region in four-wheel drive large vehicles as part of tour group.

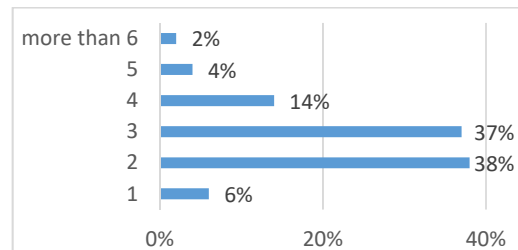


Fig. 16 Number of days spent in the region

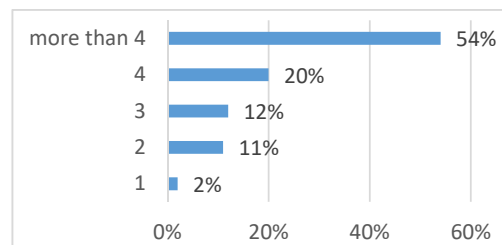


Fig. 17 Average number of tourists travelling together

The result show that average daily spending (Fig. 18) is relatively high at around R\$51.00 to R\$81.00, and over R\$81.00. From this, it can be inferred that in addition to the cost of services, as the region is remote and access is difficult due to the poor road conditions making deliveries of produce and fuel difficult, these items are generally more expensive overall. This can be observed in the previous research also, where the average daily spending was above R\$86.00 for most visitors. The high costs are also reflected in the behaviors of visitors (Fig. 19), where most people end up bringing almost everything they need in terms of provisions, failing to contribute to the local population, and therefore, limiting their income.

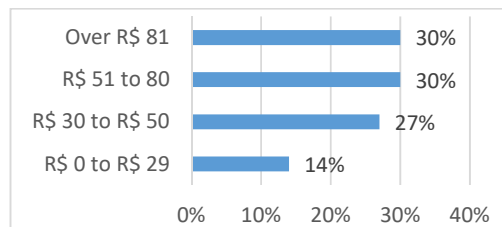


Fig. 18 Average daily spending (in Brazilian reais)

The use of guiding services (Fig. 20) has grown considerably in relation to the previous survey, where 24% hired guide or driver services and only 4% visited the park through travel agencies. It is to be noticed that there is a lot to change, because most of the visitors choose not to hire this

kind of service, or because they judge that it is an expensive service, or because they believe, it is something superfluous, and they end up traveling on their own.

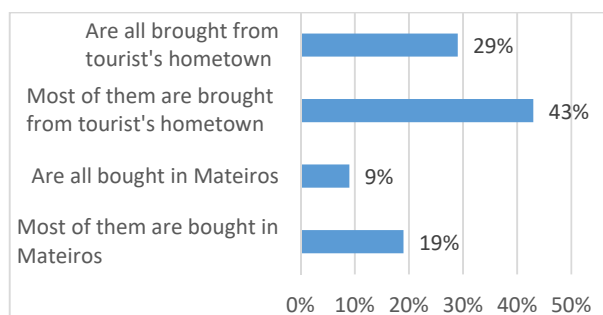


Fig. 19 Provisions used in the region

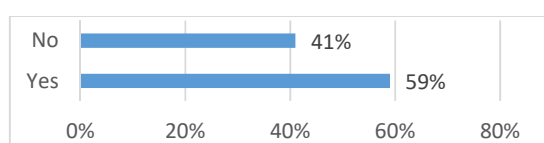


Fig. 20 Professional tour guide hire

#### VI. LEVEL OF VISITOR SATISFACTION WITH JSP

Table II describes the evaluations of tourists in 2015 and between 2006/2007, corresponding to the evaluation made by the majority of the interviewees about the region of Jalapão.

TABLE II  
 COMPARISON OF THE VISITOR EVALUATION ABOUT THE REGION OF JALAPÃO

Evaluated Items	2006/2007 evaluation	2015 evaluation
Mateiros basic services	Regular	Regular
Hosting	Regular	Good
Tourist signposting	Regular	Regular
The prices	Good	Regular
Visual aspects of the tourist attractions visited	Good	Good
The receptivity of the region's population	Good	Good
Access to the region and attractions	Regular	Bad
<b>Other items assessed in 2015 not related to 2006/2007</b>		
Touristic services	-	Regular
Daytime / evening entertainment	-	Regular
Beauty of the attractions	-	Excellent
Concerning the environmental preservation of the attractions	-	Good

It can be observed over the eight years that have elapsed since the first regional tourism satisfaction was conducted that the basic service items from Mateiros, the tourist signposting, visual aspects of the tourist attractions visited and receptivity of the region maintained their evaluations; that is, there were no changes in terms of the tourist's perception, in relation to the compared items.

We analyzed as a positive aspect, the evaluations made by the tourists, considered good, about the visual aspects of the attractions visited and the receptivity of the local population in the region. These items are very important for the consolidation of local tourism, because it shows that the region remains "attractive" in the tourist's eyes. Analysis of

the results also confirmed that the tourists evaluated the local attractions as excellent in 2015, and that the population of the region continues to receive the tourists with hospitality.

In the two monitoring researches, the basic services of the Mateiros municipality and tourist signposting were analyzed as negative. It is believed that the reason for this situation is the lack of investments in these two areas or the actions implemented in this matter were not sufficient to improve this issue in the region. Consequently, they did not obtain significant results that could modify the tourist's perception of these factors.

It is necessary to highlight that basic services are essential for the development of tourism. These services are also used by the local community (such as banks, health centers, electricity, water, street paving etc.), but also by the tourism industry and tourists who visit the area.

With regard to this item in 2015, there were numerous reports from tourists about the constant lack of water in the lodging facilities, the amount of dust created because of unpaved roads, and the amount of garbage found at various locations within the municipality, as well as the lack of regular garbage collection. There is also a shortfall in the number of bank agency services in the region; this service is only provided by an agency of the post office and a lottery house, and access to these services is not possible outside of regular business hours, particularly on the weekends and holidays, which are times that display higher levels of tourist activity.

With regard to visitor satisfaction with the available tourism signposting, this factor also showed no change, and in their evaluation, the respondents emphasized the pointed to the same points. These include the lack of standardization in the region in regard to access to tourist attractions, the absence of adequate signposting along roads indicating directions and distances to the attractions and the most important sights in the region.

Some items researched up to now, could not be correlated with the previous research in 2015, below, some of them are going to be presented. The high level of tourist satisfaction to the environmental preservation of the attractions concerning cleanliness, environmental impacts observed orientation in tourist attractions use.

Tourist services, that refer to services provided directly to the tourist, such as; receptionists, hotel maids, cooks, waiters, guides and tourism drivers among others, were evaluated in 2015 as being average. The points that should be highlighted in this analysis are the reports made by several tourists concerning the of lack professionalism in regards to these services.

The most common complaints concern services, such as: tour guides and drivers failing to provide satisfactory information about the region, delay in serving people in local establishments and cancellation of reservations in lodging facilities without informing the guest. The results also highlighted the level of dissatisfaction with the availability of cleaning, hygiene products for sale, lack of variety and availability of provisions. The research also showed that according to tourists, the food establishments not varied, the

existing ones do not have a defined service schedule and are often closed during the tourist high seasons on the site.

The local community, that demands training, also recognizes the tourist's perception of this item. Among the tourist courses, the tourist reception training was the most requested by the community [6].

Results of the 2015 survey show there were only five food and beverage establishments operating in the municipality of Mateiros available for tourists. These comprise of a pizzeria, a skewer bar (*espetinho*) and four small restaurants - from which, three are located near Mateiros municipality, but not in the city - this fact explains why complaints and negative evaluations are made by tourists. However, it should be noted that the number of establishments increased compared to the 2006/2007 season, when there was only one restaurant to answer to the demands of local tourism.

The item evaluated earlier is also linked to the ratings made on daytime/night-time entertainment activities in the region, evaluated by tourists as an average. The research showed that in all the periods monitored in 2015, tourist high seasons are not taken of advantage of as a time to promote regional events, such as handicraft fairs, aiming to enhance the community income through local tourism.

Strategies must be sought to create event projects that take advantage of peak visitor periods, as a way to generate new income opportunities for the local community.

When it was asked if tourists would recommend the region to other people (Fig. 21), the responses were positive in both instances; respondents were also positive when asked if they would return to the region (Fig. 22), with almost all visitors in both instances indicating they would return to Jalapão. The results of these questions reinforce the positive image of the region for its tourist attractions and uniqueness.

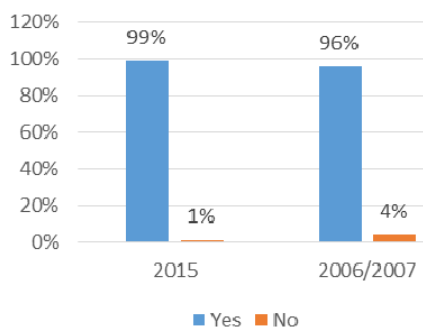


Fig. 21 Would you recommend other people to the region

A very interesting assessment, which was modified in 2015, to the form of questioning tourist about their views in regards to asphaltting the roads that give access to the attractions of the region in the year 2006/2007. Tourists were asked only if they agreed or disagreed with access road asphaltting and the results of the question are seen in Fig. 22. In 2006/2007, the answers were divided; whereas in 2015, while observing that the tourists had differing opinions as to the questions, it was reformulated by inserting multiple-choice answers. It was then asked if tourists thought that the road should not be asphalted,

but should have the same level of maintenance or if the road still had to be partially asphalted with continuous maintenance of the rest.

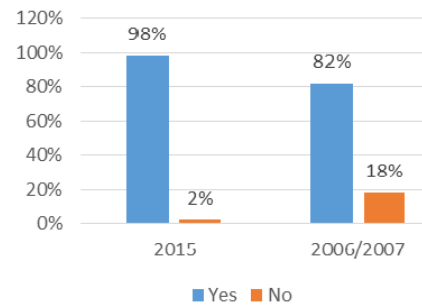


Fig. 22 Would you return to the region

As it can be observed, in 2015 (see Fig. 23), there was no divergence in the answers, with most agreeing that the roads should be partly asphalted and maintained at unpaved points (85%). The arguments gathered for this result concern the main attractions in the Jalapão region, which links to the adventure, expedition groups that have 4x4 transports and are in search of new places to be explored. In this sense, Jalapão, with its dirt roads and sparse population, appears, as an ideal setting, so asphaltting its roads would entail diminishing its current visitation.

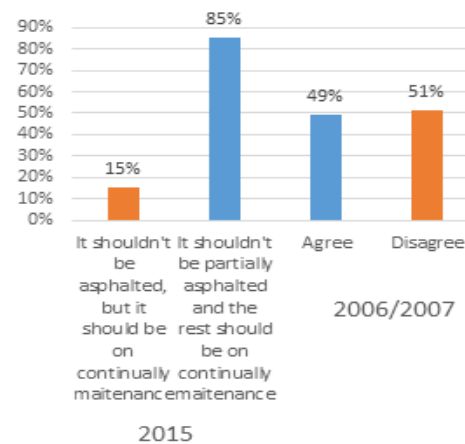


Fig. 23 Perspectives on asphaltting roads in Jalapão region

The partial asphaltting of the roads indicated by the majority of respondents in 2015 could facilitate the realization of the itineraries of the region. Even if the dirt road is considered my suitable for the environment, it must be pointed out that the state of these roads is precarious, which creates a number of issues for tourists visiting the region. The fact that it is imperative to use a four-wheel-drive car to use the access roads, adds to the expense for tourists, but also the tour operators and car rental companies, as a consequence of the poor conditions of the roads the vehicles require continual maintenance, more than they would driving on paved roads.

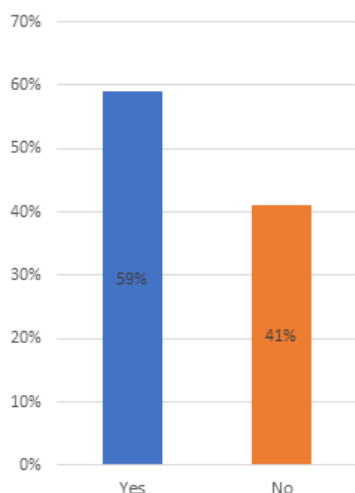


Fig. 24 Environmental education in the attractions

The perception of tourists concerning environmental education actions at the attractions (Fig. 24) was evaluated as a positive. More than half of interviewees (59%) indicated that they verified some actions at the sights such as signposts with orientations and warnings to the tourists; as well as information passed on from guides, tourist drivers or managers of the attractions about the sustainable visitation in the region. This was also a positive evaluation of the tourists' perception about the general environmental impacts at the attractions (Fig. 25), showing 59% who did not perceive any significant environmental impacts, in the form of, among others, garbage and broken trees.

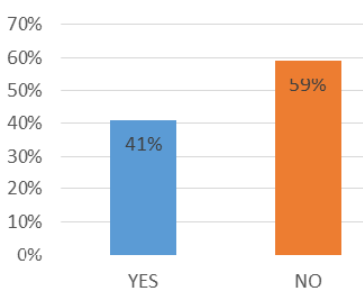


Fig. 25 Perceived environmental impacts

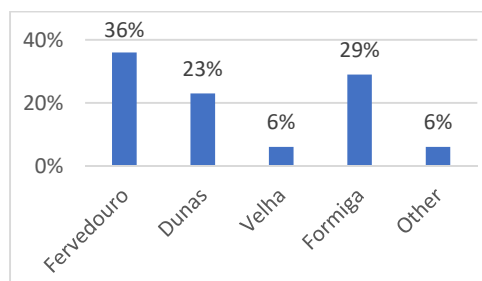


Fig. 26 Attractions that most surprised tourists

In the period of 2006/2007, tourists were asked which of the tourist attractions in the region had surprised them the most. At that time, 80% of respondents highlighted Fervedouro,

while in 2015, the same attraction was chosen by 36% of the interviewees (Fig. 26). This again reinforces that this natural resource arouses the curiosity of the tourists visiting the region, and consequently, it is one of the attractions for which conservation strategies must be elaborated. Fervedouro is one of the main products of attraction in the region and was already mentioned in the previous research as the one that receives the most pressure, in terms of the number of people visiting and given the physical and limiting characteristics of visitation, there are demands for greater efforts from management and for increased monitoring of the tourism impact [2].

In both periods surveyed, the choice of Fervedouro as the most surprising attraction in the region can be used positively in developing tourism marketing and conservation strategies for the region. Education action can also be thought of as environmental education action. In order to develop the regions that have a greater interest to visitors, activities should be proposed with the objective of increasing visitor awareness of the physical, biological and historical characteristics of their surrounds, which could also facilitate the process of conservation.

## VII. FINAL CONSIDERATIONS

In a comparison of the current research and the results of the study in 2006/2007, it is clear that there was little change in the profile of the tourists who visit JSP. While almost a decade has passed, the data remains similar in both surveys, demonstrating that the profile of the tourists who visit the park remains the same.

Concerning the characteristics of the tours, there was little change in the results; the data that showed the greatest change were the reasons for the trip, the type of lodging used and the number of days that visitor remained in the region. The results indicated that tourists preferred lodging at inns, but ultimately ended with them staying fewer days. Thus, the overall evaluations in regard to the basic services available in Mateiros, the tourism signposting, visual aspects of the tourist attractions visited and the receptivity of the population of the region, did not change in their perception. These facts suggest that even if evaluated positively, some of these items that even in eight years no action was taken that could modify visitor ratings to a more satisfactory scale. This statement is even more worrying when we analyze that the basic services of the municipality of Mateiros are still evaluated as average, which indicates that the local community does not improve the quality of life on this item. As well, evaluations about the tourist signposting in the region were also marked as average.

The lack of improvements for these items is not understood, since the region has shown a considerable flow of tourists since the first survey period, and therefore, these items should have already evolved through local tourism planning.

The lack of tourism planning was also confirmed in regards to the assessments on access to the region and attractions, which had already been evaluated as average, in 2015. In the latest study, this analysis this aspect was rated as poor, which also does not justify the lack of actions to improve the region.

These issues may bring future consequences such as the decline of the tourist flow, which, as stated, although many visitors motivated by adventure to visit the region, the precariousness of the roads cannot be used as an excuse for not improving them. All road users and especially visitors expect a minimal level of safety, and as well this should be reconciled with the needs of the local communities involved, as better roads will improve the living standards and economy of the region.

Prices of services, local handicrafts and products sold in the region must be checked and strategies for reducing the prices need to be sought; this can be done through public organizations and associations of the local tourist trade that are able to seek better prices and supply conditions for products coming from other places. At the same time, the improvement of local products and service quality can justify the higher prices for visitors.

It is possible to conclude through the research carried out in 2015, which reaffirmed that the Jalapão region possesses tourist attractions capable of maintaining a continuous tourist flow, since it is seen as a place with a high evaluation as to its beauty, and with unique attractions. Those singular aspects of the region play an important role in making tourists want to return, as well as to recommend the region to others. Although tourism to the region has been operating for many years, there is still a visible lack of touristic planning and monitoring, which is worrying; particularly since it is a CU, and as such, has an extremely sensitive environment. Thus, we point out that through the information collected in 2015 and related to the 2006/2007 research, it is possible to draw up a tourism development plan for the JSP, focusing on the satisfaction of tourists and the creation of environmental education programs aimed at sustainable tourism.

#### REFERENCES

- [1] Organización Mundial del Turismo - OMT. *Indicadores de desarrollo sostenible para los destinos turísticos, guía práctica*. Madrid, España: Impreso por la Organización Mundial del Turismo, 2005.
- [2] Dutra, V.; Colares, A.; Adorno, L. F.; Magalhães, K.; Gomes, K. Proposta de Estradas-Parque como Unidade de Conservação: Dilemas e Diálogos entre o Jalapão e a Chapada dos Veadeiros. *Sociedade & Turismo*, v.20, n.1, p.161-176, jun.2008. Disponível em: <<http://www.seer.ufu.br/index.php/sociedadnatureza/article/view/9261>>. Acesso em 15 de novembro de 2015.
- [3] Instituto Brasileiro de Geografia e Estatística - IBGE. Apresenta informações sobre o censo demográfico do ano de 2015 dos municípios do Tocantins. Disponível em: <<http://www.cidades.ibge.gov.br/xtras/perfil.php?lang=&codmun=171270&search=tocantins|mateiros|infograficos:-informacoes-completas>>. Acesso em: 17 setembro de 2015.
- [4] Núcleo de Estudos Estratégicos em Ambiente e Turismo Sustentável - Neatus/Universidade Federal do Tocantins -UFT. Relatório Técnico Projeto Turismo no Parque Estadual do Jalapão: Identificação dos Usos e Proposição de Medidas de Controle e Monitoramento. Palmas, Patrocínio Fundação O Boticário; 2008.
- [5] Wight, P.A. North American ecotourists: Market profile and trip characteristics. *Journal of Travel Research*, v.34, n.4, p.2-10, 1996.
- [6] Senna, M. L. G. S.; Dutra, V. C.; Messetti, P. H. S. Capacitando em Turismo para o bem receber: Plano de Desenvolvimento da APL de Turismo do Jalapão Mateiros/TO. *Desafios: Revista Interdisciplinar da Universidade Federal do Tocantins*, v. 1, p. 70, 2015.

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