

EXPLOITATION OF WATER RESOURCES FOR TOURISM AND LEISURE ACTIVITIES IN RURAL AREAS: THE CASE OF PALMEIRA DAS MISSÕES, BRAZIL

ABSTRACT

This study aims to identify the potential for exploitation of water resources in Palmeira das Missões - RS, a small town in the south of Brazil with farming tradition, as a diversification strategy for rural properties, by adopting tourism and leisure activities. Methodologically, a qualitative study of exploratory nature was conducted, and the data collected with semi-structured interviews with four agents involved in the rural areas of the city. Among the main results can be noted that the survey participants believe in the potential of water resources tourism, found that the rural infrastructure of the town is precarious. The implementation of tourism in rural areas requires investment and this could be a barrier to producers who seek to develop this type of service. Both tourism and leisure activities have the potential to generate income for the town, provide recreation and encourage moments for the continuity of the producer in the countryside.

Keywords: Water Resources; Rural Diversification; Tourism; Leisure.

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INTRODUCTION

Over the past twenty years, the tourism industry has experienced continued growth and has become one of the fastest growing industries in the world (Liu y Chou, 2016). The World Tourism Organization (UNWTO, 2016) reveals that tourism is considered an important factor for socioeconomic development, since it represents a source of revenue for many countries, generating jobs and income that expands to other sectors, such as civil construction, telecommunications and agriculture. The organization exposes that

the sector development as well as international tourist arrivals in the world increased by 4.6% in 2015, generating US\$ 1.5 trillion in revenues, with an even higher growth forecast for 2016, between 3.5% and 4.5%.

Taking the development of the tourism industry as reference, Silva y Souza (2015) affirm that socio-cultural and environmental aspects of agriculture emerge, along with the valorization of the several functions that it executes. For the aforementioned authors, new non-agricultural occupations have been starting in the rural environment. Therefore, tourism in

rural areas stands out as an activity that has the potential to diversify and, at the same time, promote its development (Silva y Souza, 2015).

Studies developed by Padilha (2009) analyzed the potential for development of diversified activities in rural areas, specifically evaluating rural tourism as a livelihood for rural producers, and proved to be an alternative of expansion that goes beyond traditional agricultural activities, which is exposed to risk, uncertainty and exhaustion of the factors of production. The competitiveness and the rural livelihood diversification strategy may be associated with an important survival strategy for others. Lange et al. (2012) mention that the diversification of production is considered a strategy adopted, often in times of economic crisis, noting that this option becomes an important requirement for small properties.

The presence of water resources which are important in the strategy of tourism activities developed in the rural environment, being one of the elements that contribute to the development of this type of activity (Sharpley y Vass, 2006; Reardon et al., 2001).

Considering that part of the available resources in rural properties are somehow related to the geographic and climatic aspects, it is assumed that these resources can be combined at a level that transcend the agricultural and livestock production. Associating this question with the fact that people seek with increasing intensity tourism and leisure activities that can help them compensate their stressful professional activities and routines, this study aims to identify the potential of exploitation of water resources in a small town with rural tradition in Brazil as

alternatives for diversification of rural properties from tourism and leisure exploration. The research was conducted in the Municipality of Palmeira das Missões, a small town in Rio Grande do Sul, located in the south of Brazil.

RURAL TOURISM, DIVERSIFICATION STRATEGY AND WATER RESOURCES

Tourism as a strategy for economic growth has attracted interest in several areas of knowledge (Fleischer y Felsenstein, 2000). The sector has been observed as an instrument to promote jobs and increase the level of economic well-being (Echter, 1995; Fleischer, 1999).

The development of tourism activities in rural areas would be associated to the process of urbanization and overflowing from urban to rural space. For Silva (1997), the new ways of occupation of the rural space are activities related to leisure, such as, farm hotels and fish and pay, a place where visitors fish and then pay to take what they got home). In this way, rural tourism activities are composed by the offer of services, equipment, food, recreation, visits to rural properties, entertainment and other activities that exist in view of tourism or that constitute the motive of visitation.

In this respect, members of the "rural family" (household) engaged in agricultural practices are motivated to develop other types of activities unrelated to the current ones. The reasons are generally related to the possibilities of achieving higher incomes in new activities; the inherent risk of agricultural practices; and the uncertainty of the existence of the consumer

market for products resulting from productive activities (Reardon et al., 2001).

Strategically, the type of diversification adopted depends on the external geographical context, the economic context, and internal factors related to property and the rural family. Among the challenges faced by rural producers who choose to diversify their businesses with the use of available water resources, the location of the land area is a strategic factor for the success of the enterprise.

The diversification of rural properties has been considered an important factor of rural development (Sharpley y Vas, 2006). It can be seen that rural activities are no longer based only on traditional agrarian activities, subject to risk, uncertainty and exhaustion of production factors. Rural livelihood diversification is defined as a process by which the individual or the rural family unit constructs a set of activities and goods with the aim of both survival and improvement of their standard of living (Ellis, 2000). The sustenance includes the natural, physical, human, financial and social capital goods. Ease of access to these goods and productive activities, determine the subsistence or standard of living of rural families.

Bebbington (1999) has also been concerned with understanding the relationships between the agents involved in the changes in livelihood strategies, the regional economy and macroeconomics. Besides, the author has incorporated the relationships that individuals and family units have with institutions and organizations that operate at broader scales and which, in general, constitute the channels

through which development of interventions necessary to change the scenario occurs.

Agricultural activities developed on rural properties have a significant impact on the environment and are highly influenced, mainly, by government policy. In the view of Fennell y Weaver (1997), ecotourism is a way of diversifying the business of the property, being an alternative form of entrepreneurship that contributes to the economic development in these places. Holiday farms also contribute to the representation of a potential conduit of rural diversification that is increasingly significant for agricultural-based economies.

Nilsson (2002) points out that it has a different structure from agriculture, afforestation and fishery. The option of diversifying rural property with the ecotourism business demands knowledge of the potential opportunities available in rural areas, such as water resources, that can contribute to the dynamism of activity.

In Malaysia, the main activity in lakes and reservoirs is, and always has been, fishing. Annual production of freshwater fish is considered a valuable source of protein for the livelihoods of the rural population. In addition, many lakes and reservoirs serve not only for the development of recreational fisheries, but also for ecotourism practices, and the local farmers can benefit from them (Ambak y Jalal, 2006).

By analyzing the water resources available in rural properties, they could become the exploration of new businesses, such as sport fishing and “fish and pay”. The expertise is a decisive factor for producers who want to compete in this market segment, in addition to the need for infrastructure, skilled labor,

financial capital for investment in the new business, contributing to the development of diversification strategy that would meet the demand of people seeking recreation and leisure.

Another water resource that can be present in the rural properties and that can also be exploited in for the diversification of the businesses, are the waterfalls or cascades. The formation of terrain in certain regions of the country, associated with the presence of water resources, provides the formation of one of the most beautiful attractions that are explained by waterfalls or cascade. This type of natural water resource represents one of the most important attractions for the development of activities related to tourism and leisure that are reflected in recreation for its explorers.

Lakes and rivers are extremely fragile landforms, doomed to the slow and continuous natural process of sedimentation that leads to the reduction of their water mirrors and their complete disappearance. It is important to highlight what activities can arise from the exploration of lakes and rivers, since rural producers who have this kind of resource in their areas can use them as a strategy of diversification by turning to tourism and leisure activity. They offer opportunities related to the practice of water sports, such as rafting, swimming, recreational fishing, boat trips, among others. It should be remembered that the offer of activities related to tourism and leisure is associated, mainly, with water quality, besides the diversity of fauna and climate.

METHODOLOGICAL PROCEDURES

The research of exploratory nature and qualitative approach was carried out. Palmeira das Missões, a municipality located in Rio Grande do Sul, in the south of Brazil, was chosen due to its tradition in agriculture and livestock production, being a potential place for tourism and leisure in rural areas.

Regarding the technical procedures, the study is characterized as a case study type (Yin, 2005), and the data collection was carried out through semi-structured interviews in 2017 with four individuals who have a relationship with the rural environment: the Secretary of Tourism of the municipality, the Secretary of Emater, one environmentalist and a rural producer were interviewed.

The collection instrument was composed of the categories: potential for developing tourism in rural areas from existing water resources, infrastructure, difficulties in investing, tourism and the importance of the community and institutions for the development of tourism.

The data were analyzed by an interpretative analysis of the content of the responses

RESULTS AND DISCUSSIONS

The municipality of Palmeira das Missões is located in the northwest region of Rio Grande do Sul, Brazil, having its foundation on May 6, 1874. The area of the municipality is 1,419.4 km² and the estimated population in 2017 was 35,045 inhabitants.

The economy is based on agriculture, which corresponded to 39.26% of the Gross Domestic Product (GDP) of the municipality in the year of 2013 (IBGE, 2016). In addition, the municipality has a humid subtropical climate and is in the Atlantic Forest Biome. The main water resources are: Ijuí River Basin, Turvo River (that integrates Rio da Prata basin that flows into Uruguai River and Várzea River), Guarita River (affluent of Uruguay River with its adequate dam for fishing), Macaco River, Barreiro River, Fortaleza River, Passo da Palmeira River, Macaco Waterfall, Guarita Waterfall and Tonini Cascade.

The four participants of the study were questioned about the potential places for the development of rural tourism and leisure activities, as well as the identification of the water resources that could be the source of exploitation of diversity activity for properties in the municipality studied. The results of the survey are presented in Tables 1, 2, 3 and 4.

Table 1- Potential of exploitation of water resources in diversification strategies in rural areas

Interviewee	Percepçion	Water resources
Secretary of Tourism	Yes, the municipality presents a diversity of water resources	Passo Raso River, Olaria do Machado, Doutor Pompilho Farm, Santa Mercedes Farm and Cascade on Calisto Line
Secretary of Emater	Yes, we have several water resources that can be explored	Macaco Waterfall, Quebrado Waterfall, Waterfall of São Judas Tadeu Line and ranches of Pacheco Line
Rural Producer	Yes, farms are surrounded by many rivers and waterfalls	Passo Raso River, Tonini Cascade and Macaco Waterfall
Environmen	Yes, but the	He did not

talist	properties should develop environmental recovery projects first	mention

Source: Primary data (2017).

Table 2 - Infrastructure in rural areas

Access roads	Electricity	Communication
Difficulty in paving due to the location of properties	Available in all rural areas	Lack of availability of antennas of communication operators (internet and mobile telephony)
Roads need repairs		
A "real chaos"	Precarious	

Source: Primary data (2017).

Table 3 - Strengths and weaknesses of rural tourism

Strengths	Weaknesses
<ul style="list-style-type: none"> - Growth of the municipality through revenue generation, greater source of income for people, new job opportunities. - Encouragement for people to stay in rural areas - Provide for the population moments of leisure, fun and entertainment 	<ul style="list-style-type: none"> - Infrastructure for access and reception of tourists, demand and public acceptance. - Lack of vision and environmental awareness of rural producers who work in agricultural and livestock activities that damage water resources. - The need for financial investments for an adequate infrastructure

Source: Primary data (2017).

Table 4 - Development and support institutions

Coordinating institutions	Support institutions
<ul style="list-style-type: none"> - City Hall and Rotary Club - Emater, Senar and Secretariat of Tourism - University of Passo Fundo, Federal University of Santa Maria, State Technical School Celeste Gobatto and the NGO "Amigos da Mata" 	<ul style="list-style-type: none"> - Secretariat of Tourism, Emater and Senar. - The owners of rural properties

Source: Primary data (2017).

In addition to the identification of the water resources present in the rural properties, another aspect questioned was if the mentioned sites could offer other attractions besides the

water resources. According to the environmentalist and Secretary of the Emater, it can be noted that both share the same point of view, agreeing that all properties have potential to have rural tourism on their properties, not only related to water resources. In his opinion, the nature attributed to its beauty is already an attraction itself, but due to the domination of the agricultural plantation on the slopes of rivers and lakes, these places have become devastated areas.

In the understanding of the rural landowner, Passo Raso River, Macaco Waterfall and Tonini Cascade are inappropriate places for ecological trails. They could be adapted to areas of sports like soccer, volleyball, among others. For the Secretary of Tourism, in these areas, besides the water resources, he does not notice the potential of other attractions that could contribute to the development of strategies for diversification of families.

The municipality of Palmeira das Missões has some places that could be explored in the tourism activity in rural areas, such as rivers, waterfalls and cascades.

Afterwards, the interviewees were asked about their opinion regarding the aspects of infrastructure (access roads, electricity and communication) in rural areas that directly or indirectly influence the development of leisure activities in these rural spaces. In the perception of the Secretary of Tourism, there are investments in paving the roads, but, due to their location, it is often difficult to paving and maintenance. For the rural producer, the access roads to these places need repairs, as they are not in good condition, highlighting the access road to

Tonini Cascade that has several kilometers without pavements. According to reports by the environmentalist and Secretary of the Emater, the rural roads are a “real chaos” due to the lack of maintenance because during the rainy periods they become inaccessible, a real “muddy river”. Regarding electricity, the Secretary of Tourism, the rural producer and the Secretary of the Emater mentioned that it is available throughout the rural area. In contrast, the environmentalist believes that this type of resource is precarious, citing as an example a non-governmental organization (NGO) which is located in rural areas where electricity is not available. The interviewees presented the same opinion regarding the communication, the access to mobile reception is possible in high places or in certain properties. Regarding the internet, they stated that there is no access due to problems related to unavailability of antennas.

Another aspect researched relates to the main obstacles to develop tourism and leisure activities in rural areas. In the understanding of the Secretary of Tourism, despite the resources being owned, in order to offer accommodation and maintenance of the existing water resources, investments are required. For him, perhaps this is the main reason for the lack of interest in developing tourism, noting that: “*The ones who could be interested would be the middle and small farmer, but in these properties there are not rivers, waterfalls or lakes that stands out to be a tourist place [...].*”

In the perception of the environmentalist, only the small and medium rural producers could be potential, also considering the financial investment necessary for the construction of

adequate infrastructure, and to a large extent, the government could help, mainly in the access to the credit for investments in the tourism rural. Besides that, a change in the current production systems that contemplate the sustainability of tourism activities would be necessary.

The Emater Secretary understands that, in addition to the owners not having their own resources for investments, they would demand participation in government financing programs, such as the National Program for Strengthening Family Agriculture. According to her, the rural producers would face another difficulty that resides in the seasonality, that is, the rural tourism activities from the exploitation of the water resources would present income to the producers only in the summer.

The research also included aspects related to the positive and negative elements of tourism in rural areas. In the opinion of the Secretary of Tourism, the greatest obstacle would be the displacement of the public from the urban area to the rural area, especially due to the fact that the municipality has clubs with good infrastructure and swimming pools, as well as aspects related to the profile of users who, understand that this kind of recreation in rural areas has little added value, not identifying negative points, since it would contribute to the development of the municipality through the generation of revenues and new jobs, new alternatives to increase income for rural producers with an emphasis on tourism activities.

For the rural producer, aspects such as investments in infrastructure would be one of the strategic elements for the development of this type of tourism, since people are more and more

demanding with the quality of the services and look for places that offer tranquility, well-suitable accommodations, parking lots, snack bars, mini-pharmacies, among others. He adds that tourism in rural areas does not present negative factors as it would provide the population with moments of leisure, fun and entertainment because, according to his understanding, people who work all week, look for places to relax on weekends, holidays or vacations, in order to break the routine, and they have the inclination to demand appropriate spaces to gather family and friends.

For the Secretary of Emater, tourism in rural areas would be an incentive for people to remain in the countryside. As for the negative factors, she mentions that the lack of infrastructure of the properties to receive tourists with comfort and adequate access roads would be an obstacle. It became clear her concern about access, highlighting: "people will not put their cars on bad roads".

In the understanding of the environmentalist: *"It is necessary to develop consistent public policies, since the lack of vision and environmental awareness of people associated with agricultural and livestock production is damaging the water resources that could be used for leisure activities in rural areas"*. In this way, it can be understood that tourism and leisure activities in rural areas can prove to be an interesting alternative of income generation for rural families, especially when included the articulation of the Public Authorities, the population of the municipality and support institutions.

According to the interviews conducted, it is noted that the participation of the community and the institutions in the development of tourism activities in rural areas are strategic aspects that could contribute to its achievement. The community would have a fundamental role in this articulation and dissemination, which would become the attraction of tourists and added value to other types of support services.

With regard to support institutions that could assist in the development of tourism activities in rural areas from the exploitation of water resources, the environmentalist mentioned the willingness of the community to contribute and use the service. The University of Passo Fundo and the Federal University of Santa Maria, considered key institutions for the elaboration of projects. The Celeste Gobatto State Technical School is an important for the qualification of the rural producers and labor involved in this type of service, complementing that the NGO “*Amigos da Mata*” (Friends of the Native Forest) could also be included in the environmental preservation projects.

The Emater Secretary argued that the community is already a partner, since many places mentioned are already attended by many people, but due to the lack of financial resources of the owners to invest in the infrastructure of these places, they do not attract a larger amount of visitors. For her, in addition to the community, Emater, the National Rural Learning Service (Senar), the City Hall and the Secretariat of Tourism, are entities that could work together for the formation of projects.

For the rural producer, the community would be a partner, as long as it is not in places

of difficult access such as Macaco Falls or Passo Raso Cascade. He also pointed out that there are institutions that could work together with the community, which would be the City Hall as coordinator and also the Rotary Club for receiving people from different countries. The Secretary of Tourism mentioned the difficulty of participation of people, because for the population of the municipality, tourism in rural areas is not considered an attraction, saying that “*People already know People already know the ranches and farms in the municipality, but it can be an attraction for people coming from other places, especially for tourists from the region of Serra Gaúcha [...].*”

The Secretary of Tourism of the municipality identified the City Hall as the main partner in the development of projects that could develop tourism in rural areas from the exploitation of water resources. The Table 4 presents the institutions that could help in the promotion and development of tourism in rural areas.

Based on the interviews conducted and aligned with the objective of the study, it can be noted that access to capital is a preponderant factor in the development of the rural diversification strategy (Ellis, 2000). Notably, if rural families do not dispose of or access the natural capital (rivers, waterfalls, cascades, fauna and flora), physical (improvements, facilities, access roads), human resources (skilled familiar and contracted labor), financial (agricultural income, salaried activity, retirement, credit lines), and social (neighbors, communities, government institutions, advisory and planning organizations, NGOs), the rural tourism activities

lose their competitive standard of generation of income alternative for small and medium rural families.

The discussion focuses on the insertion of tourism in the rural environment, which offers a new way of diversifying income generation and thus guarantee the livelihood of rural families, since even though there are difficulties of implementation, the activity is an option that can be used as an alternative for the continuity of families in rural areas

FINAL CONSIDERATIONS

Based on the objective of the study that was to identify the potential of water resources in the municipality of Palmeira das Missões, a small town in the south of Brazil which has tradition in agriculture and livestock production, as alternatives for diversification in rural properties from the exploitation of tourism and leisure, it can be noted that the municipality presents a diversity of water resources that could be the source of livelihood diversification strategies in rural areas. However, the lack of infrastructure was considered the main bottleneck for the exploitation of the activity, as well as the impacts of agriculture in the municipality, which may harm the places that are favorable to rural tourism.

When asked about the tourism strengths, respondents mentioned the growth of the municipality, revenue generation, encouragement for families to remain in the countryside, as well as leisure for tourists. The interviewees also affirmed the importance of participation by the community, institutions (such as universities,

city hall, state institutions and NGOs), as well as rural owners themselves and institutions to contribute to the community's qualification for rural tourism.

Among the main limitations of the research, four interviews may not represent a significant sample of the individuals involved in rural tourism. Thus, it is suggested that new studies be carried out, involving a greater number of interviewees, as well as interviews with potential tourists to assess their requirements and suggestions for tourism in rural areas.

Finally, the study contributed to a better understanding of the potential of available water resources in the municipality with predominance of agricultural and livestock production, and may serve as indicators for the development of public policies that promote the development of the activity, taking into consideration other realities that exploit this attractiveness on a commercial scale as a generator of wealth, preservation of natural resources and improvement of the livelihoods of rural families.

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