

INTEGRATED ANALYSIS OF TOURISM OFFER FROM GOLEGÃ AND TORRES NOVAS MUNICIPALITIES

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Abstract:

Post pandemic tourism observes a worldwide consumer choice shift from the traditional sun and beach to adventure and nature-based tourism. While interesting for many countries such as Portugal where interior regions observe abandonment and deteriorating economic development, this new economic boost presents unforeseen risk.

Both Municipalities hold similar potential and diversity of assets, from cultural festivities to natural classified areas. However, administrative individuality contributes towards competition, jeopardising the necessary quality of tourism.

The current study analyses the evolution of tourism between 2011 and 2021 in the municipalities of Golegã and Torres Novas in terms of number and diversity of beds, support infrastructures, and tourists. Furthermore, a spatial analysis of tourism diversity evaluates the essence in each municipality.

Using diversity of touristic offer as the core offer can be a drawback if badly planned. The necessary required balanced will award quality potential to market this concept, otherwise leading to dissatisfaction and losses. A thorough analysis of the existing diversity and potential for new niche tourism, dictated the diversification of the current offer and which areas hold space for growth.

As a conclusion a joint model of adaptable integrated tourism for both municipalities is presented as a strategic solution for tourism and sustainable development for the region.

Key words: Cultural tourism, Sustainable development, strategy, carrying capacity

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1. INTRODUCTION

The global spread of coronavirus SARS-CoV-2 causing severe acute respiratory syndrome (COVID-19) favoured social, medical, and economic repercussions that will be long felt. Though necessary to control the pandemic, the strict social distancing, travel bans and, and extreme quarantine measures caused economic losses worldwide. The World Bank prognosis for the tourism sector alone is that there will be a decrease in output of 50–70% (Alotaibi & Khan, 2022; World Bank, 2020). Due to the major importance of tourism for the economic sector of some countries, the impact of COVID-19 was the target of several academic studies trying to evaluate the specific impacts and solutions for this problem (Jafari et al., 2021; Stone et al., 2021; Weng et al., 2022).

It is believed that the recovery from the crisis will lead to a competition between countries for tourists caused by oversupply and not matching demand. The recovery rate derived from political lockdown decisions, resulted in countries benefiting from the relaxed travelling rules, such as within the European space and obviously some countries overdependent on tourism having to hardly impose restrictions. This opened a competition window for new markets, such as some African, Latin-American, and Caribbean countries seizing the opportunity, while some of the more traditional markets suffering hard losses such as Macau, Cyprus, Malaysia, Thailand and even Portugal (Alotaibi & Khan, 2022; Jafari et al., 2021; World Bank, 2022).

Despite tourism not being the main economic driver of some countries, others are heavily dependent on this industry. Tropical insular countries and other developing economies are extremely dependant on tourism and were by far, the most affected (World Bank, 2020). The implications of the pandemic lead families to search for safer destinations, avoiding crowded places, and air travel bringing into the game forgotten destinations. For the many countries that offer 3S tourism (sun, sea, and sand), the during and after pandemic phase was dramatic with tourists searching for quiet, isolated, and natural locations away from the masses. After the initial national tourists driving this shift, the already resuming international travel, with tourists which acquired similar practices in their own countries is also contributing towards this trend (Jafari et al., 2021; Stone et al., 2021; Weng et al., 2022).

Tourism in European rural areas played an important developmental regional role, further aided by a renewed interest during and after the pandemic situation. The socio-economic development and regeneration of rural areas, especially of sensitive areas with weakening industrial and agricultural activities is now renewed by people’s need to experience these places before climate change threats drastically change the conditions, in search of the natural (Stokowski et al., 2021; Yu et al., 2020). Local attractions, either natural protected areas or cultural festivities, already in place summon up the relatively low level of investment necessary to promote those attractions. Natural and cultural resources can be resumed to Natural protected areas and the older ways of life themselves which respond to modern tourists’ desire to exploit authenticity, rediscovered quiet places, and avoid the pandemic threat (Chen et al., 2023).

Amidst many other European and worldwide destinations, Portugal experiences a considerable growth in rural tourism demand. The privileged European location and the sudden trendiness of cities such as Lisbon and Porto lead to more and more tourists searching for a natural/Cultural escape into the forgotten interior regions of Portugal. This obviously brings some issues into the fragile, under infrastructure tourism capacities

of these regions. For decades these regions observe depopulation with consequent ageing. This trend opened new investment opportunities to an uncontrolled bread and breakfast boom, though an apparent breath of fresh air to local economies, it lacks planning and a development model adequate to the characteristics of the region leading to hotspots of excess tourists (L. Santos & Lopes, 2022; N. Santos & Oliveira Moreira, 2021).

A mere 1hour away from Lisbon airport, Golegã and Torres Novas Municipalities hold a wide range of attractiveness, from Natural Protected Areas to Cultural activities that reach worldwide interests, leading to exponential spikes of tourism. So far, these spikes feed a local economy, serving as an extra untaxed income for families as tourism facilities are unable to respond to such a sudden demand. This problem results from the low demand between events, which does not attract the unforeseen payback investment. This lack of strategy and tourism planning from such asset rich, well located Municipalities cries for an integrated model for sustainable tourism development. The current study aims to analyse the touristic offer of the municipalities of Golegã and Torres Novas in Portugal, evaluating all the potential tourism assets while calculating the current carrying capacity of this territory, proposing a model for future sustainable development.

2. CHARACTERIZATION OF THE STUDY AREA

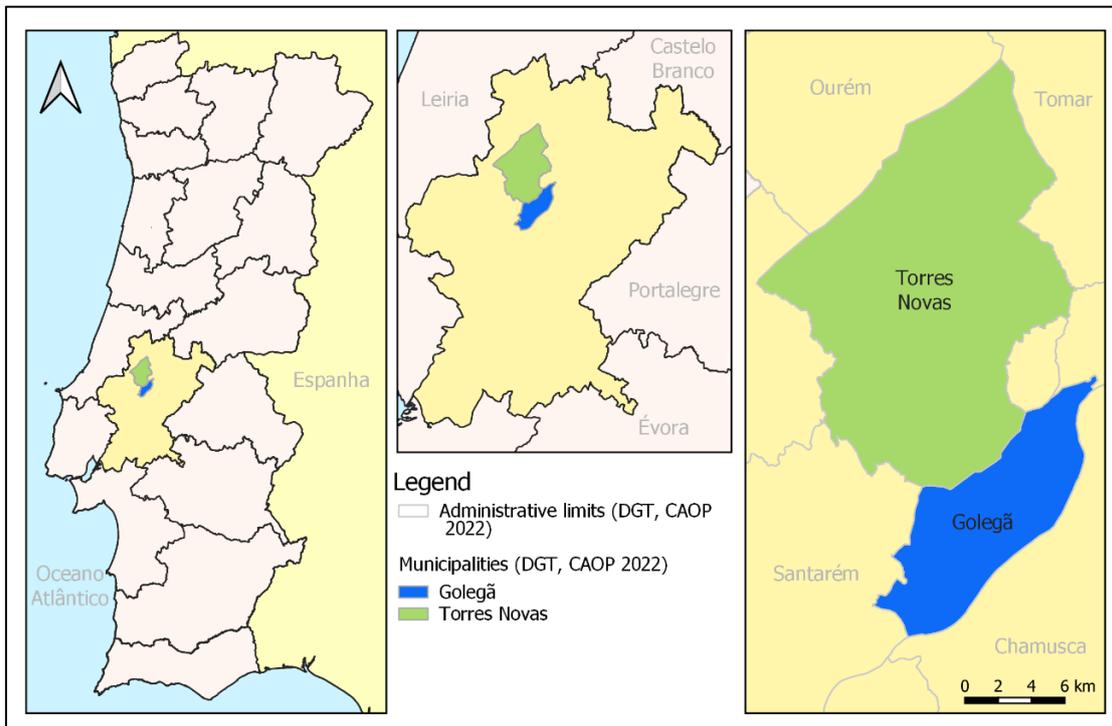
The study area involves the Municipalities of Golegã and Torres Novas, located in the centre of Portugal (fig.1). A predominantly rural territory bordered by the Tagus River to the South and the Aire and Candeeiros Mountains to the North and West. The region holds severable classified protected areas, The Natural Park of Aire and Candeeiros mountains and the Boquilobo Marsh Nature Reserve. Other natural assets are related to the geological core of the Limestone massif which delivers natural springs and complex cave systems.

The rich floodplains of the geologically diverted Tagus River award this region its agricultural nature. Cattle use traditions linger to present days, with the titles of Horse capital of Portugal held by Golegã, celebrated yearly with horse festivals and competitions, and the cattle blessing fair held every 4 years in Riachos Torres Novas. Are some of the examples of this strong connection with rurality.

The municipality of Torres Novas belongs to the NUT II Centro Region, part of the Santarém District, administratively is composed of 10 parishes spanning 270Km². With one city (Torres Novas) and predominantly rural parishes, 1 moderately urban and 6 predominantly urban where 46.7% of the population lives in clusters with more than 2000 inhabitants. The 36,717 inhabitants correspond to a population density of 136 inhabitants per km², presenting an intercensal population variation rate of -0.5%, where foreign population represents 1.5% of residents.

The municipality of Golegã, belongs to the Alentejo Region (NUT II) part of Santarém district, administratively composed of 2 parishes Azinhaga and Golegã, spanning 76.1 km². Situated on the right bank of the Tagus River and crossed by the Almonda River, which contribute to soil fertility awarding the rural characteristic to the 2 villages holding a total of 5400 inhabitants, corresponding to a density of 70.9 inhabitants per Km².

Figure 1. Geographic location of the Golegã and Torres Novas Municipalities.



Source: Own elaboration QGIS

3. METHODOLOGY

An integrative literature review and online data search were chosen as appropriate methodology to synthesize secondary data about a wide range of topics directly relevant to tourist attraction within and around the Municipalities of Golegã and Torres Novas. In particular the Governmental National Tourism website (<https://www.turismodeportugal.pt>), the National Census website from the National Statistics Institute (<https://www.ine.pt>) were used to collect data on the number of touristic facilities, demographic data, and the number of beds available from 2011 to 2021. Furthermore, a GIS analysis (QGIS) of touristic interest sites using the same-day approach of 30km buffer from municipalities limit' considering, optimal return same-day travel span, adding the average visiting time to award a comfortable relaxed visitation.

Carrying capacity is calculated using the methodology firstly proposed by Cifuentes (1992) adjusted to local characteristics(Cifuentes, M., 1992). The methodology considers the basic assumption of a standard area requirement for the specific tourism activity which is the environmental area in square meters required for a person to move freely. Standard area values were obtained from literature and direct observation of the activities (Table 1) and were used for the calculation of the rotation Coefficient (RC), basic carrying capacity (BCC), potential carrying capacity (PCC), and real carrying capacity (RCC) for the activities and spaces identified in the geographic area of both municipalities (Table 2).

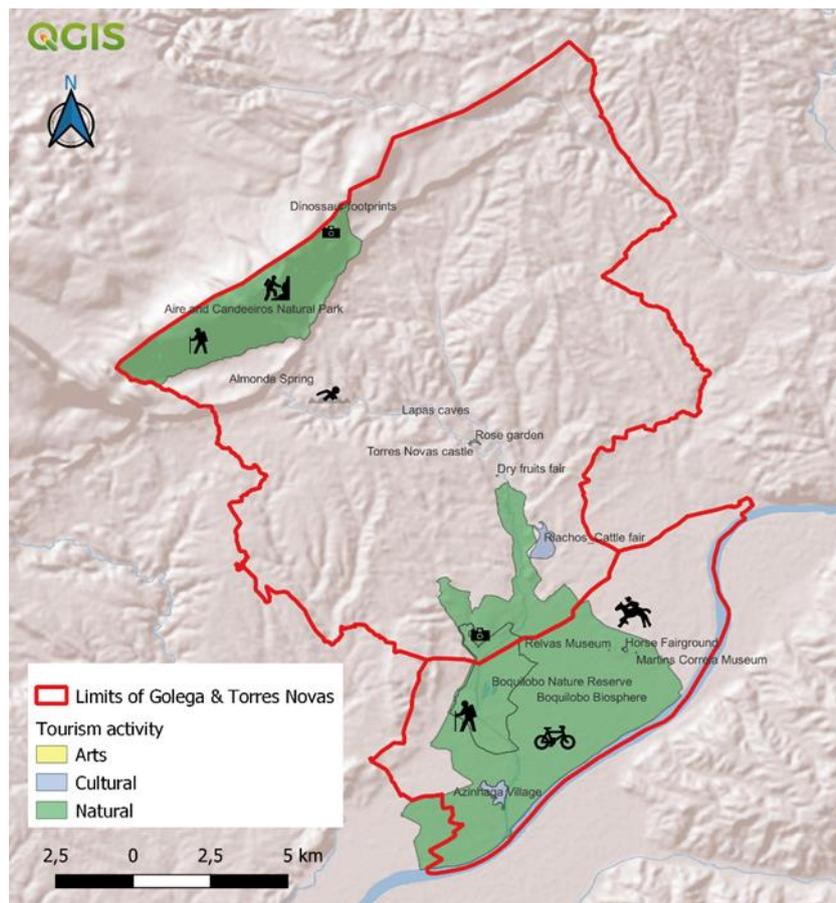
Table 1. Standard area requirement values per type of tourism.

Type of Tourism	Standard Area Requirement for Activity (sqm)
Culture	100
Swimming	100
Caves	50
Trekking/Hiking	300
Cycling	500

Source: Own elaboration

The first step of this methodology is to calculate the Basic Carrying Capacity (BCC) results from the division of the effective area by the Standard Area requirement for activity. Effective area was obtained using QGIS drawing polygons over Google Satellite base map (Fig. 2) and area calculated using the attribute calculator tool in QGIS.

Figure 2. Areas of tourism activity within the study area.



Source: Own elaboration QGIS

Table 2. Tourism activities identified in Golegã municipality.

Name	Type of Tourism	Area available for Activity (ha)	Timespan
Boquilobo Nature Reserve	Hiking Trekking / Nature	817	All year round
Azinhaga – Saramago’s bithplace	Culture / Literature	10.000	All year round
Casa Relvas – Studio Museum	Culture / Art	0,5	All year round
Biosphere Reserve	Hiking Trekking Cycling / Natural	5896	All year round
Horse Fair - Feira Nacional do Cavalo	Culture / Horses	10	2 Weeks in November - Yearly
Mare – Expo-égua	Culture / Horses	10	1 Week in May - Yearly
Martins Correia Museum	Cultural / Art	0,5	All year round
Olé Golegã – Bulls and horses festivity	Cultural / horses and bulls	10	3 days in September - Yearly

Source: Own elaboration

Table 3. Tourism activities identified in Torres Novas municipality.

Name	Type of Tourism	Standard Area Requirement for Activity (ha)	Timespan
Torres Novas Castle	Culture / Historic	1	All year Round
Lapas Caves	Cave		All year Round
Dry fruits Fair	Cultural / Agriculture	1	10 days in October - Yearly
Almonda Festivities	Culture / Historic	2	5 days in July - Yearly
Almonda Springs cave	Cave / swimming	0,5	All year Round
Quinta de S. João Batista	Culture / wine cellar	2	All year Round
Carlos Reis Municipal Museum	Culture / arts	0,5	All year Round
Rose gardens	Culture / nature	2	All year Round
Villa Cardílio Roman ruins	Culture / History	0,5	All year Round
Cattle Blessing fair	Culture	5	2 weeks in July – Every 4 years
Agriculture Museum	Culture	0,5	All year Round

Source: Own elaboration

The second step is to calculate Potential Carrying Capacity (PCC) which results from the multiplication product of the BCC by the Rotation Coefficient (RC). The latter includes functioning hours of each one of the touristic activities, calculated by dividing

the available time for the activity in hours by the average tourist visiting time in hours (Table 4).

Table 4. Rotation coefficients calculated for each type of tourism.

	Available time for activity per day (hours)	Average tourist time (hours)	Rotation Coefficient (RC)
Culture	8	6	1,33
Swimming	8	3	2,67
Caves	8	2	4,00
Trekking/Hiking	11	6	1,83
Cycling	8	5	1,60

Source: Own elaboration

The third step is to calculate the Real Carrying Capacity (RCC) equation (3) which was calculated as the multiplication product of the PCC for each activity by the Limiting factors (Lf) for yearly weather conditions measured in number of bad weather days (Lf1) equation (1) and opening time in hours of a destination per day (Lf2) equation (2).

$$(1) \quad Lf1 = \frac{(100 - \left(\frac{ny}{365}\right)100)}{100}$$

Equation 1. Calculates the number of bad weather days Ny for a certain location.

$$(2) \quad Lf2 = \frac{(100 - \left(\frac{nh}{24}\right)100)}{100}$$

Equation 2. Calculates the number of opening times of a destination per day Nh for a certain location or event.

$$(3) \quad RCC = PCC * Lf1 * Lf2$$

Equation 3. Calculates Real Carrying Capacity

Table 5. Limiting factor calculation for climatic and time restrictions.

Type of Tourism	Unit	Lf1	Lf2
		Bad Weather Days/year	Opening Hours/day
Culture	Number of Days/Hours	90	8
	Remarks	2 months	9 am - 5:30 pm
	Coefficient	0,753424658	0,978082192
Swimming	Number of Days/Hours	180	9
	Remarks	6 months	8 am - 6 pm
	Coefficient	0,506849315	0,975342466
Caves	Number of Days/Hours	180	8
	Remarks	6 months	9 am - 5:30 pm
	Coefficient	0,506849315	0,978082192
Trekking/Hiking	Number of Days/Hours	180	10
	Remarks	6 months	7 am - 6 pm
	Coefficient	0,506849315	0,97260274
Cycling	Number of Days/Hours	180	10
	Remarks	6 months	7 am - 6 pm
	Coefficient	0,506849315	0,97260274

Source: Own elaboration

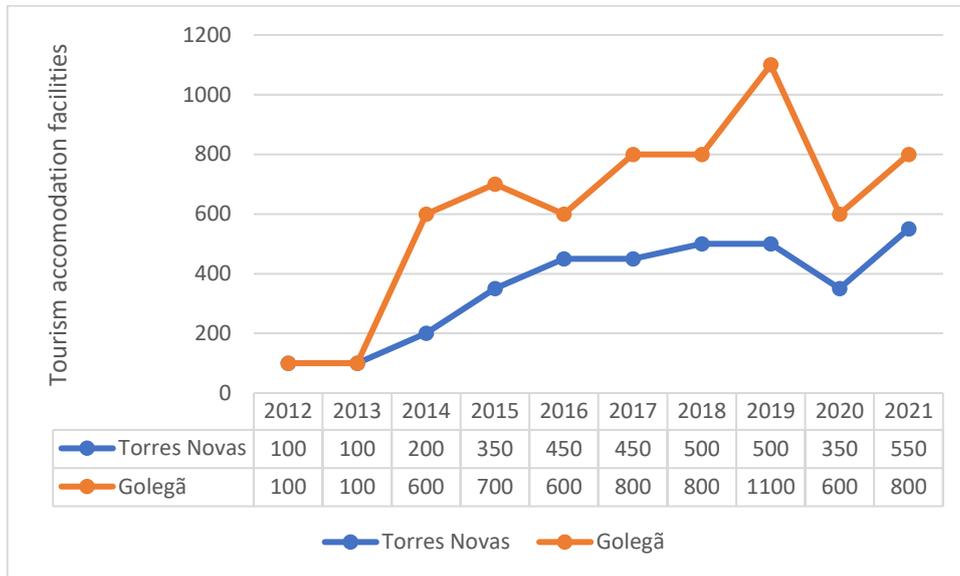
To Real Carrying Capacity final values (RCC), a further coefficient was applied with particular emphasis on natural areas which legally observe restrictions and hold large surface areas. Therefore, for Nature Reserves a 0,001 factor, 0.01 for Natural parks and 0,1 to Biosphere Reserves in order to impose restrictions already in place into the carrying capacity calculations.

4. RESULTS & DISCUSSION

In terms of capacity and average stay, in 2021 Portugal had a total of 1.631 Rural Tourism and Residential Tourism establishments, a figure 3.3% lower than that recorded in 2019 an equivalent 27,350 beds, 2.9% more than the pre-pandemic year (Ref).

From the analysis of the national Tourism data from 2012 to 2021 for the municipalities of Golegã and Torres Novas, collected from the national Census 2011 to 2021 respectively, considering all typologies of accommodation (Bed&Breakfast, Rural tourism, and Hotels) the number of facilities globally increased since 2012 to 2021, observing a considerable reduction during the pandemic year 2020 (Fig. 3).

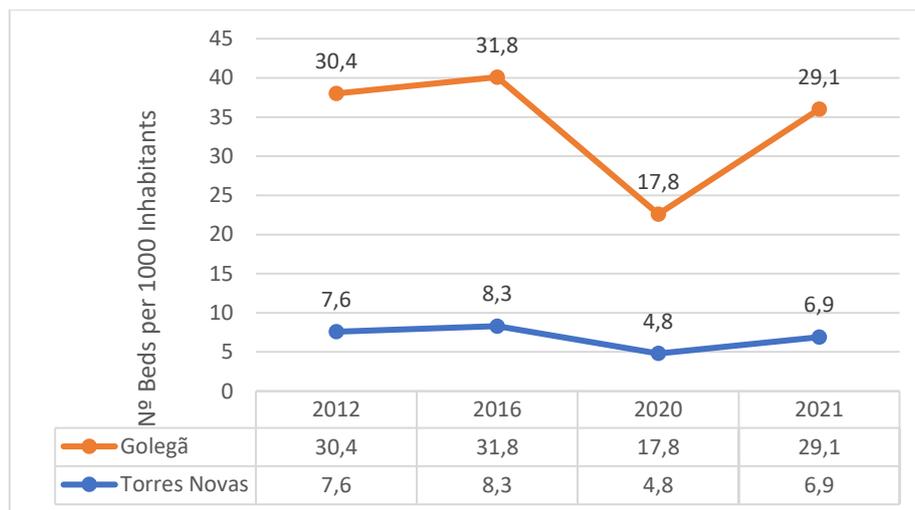
Figure 3. Accommodation facilities in activity from 2012 to 2021 within the study area.



Source: Own elaboration

The clear growth of accommodation in both municipalities is in line with the national tourism growth acting as a demand response. A clear reduction of tourism accommodation during the 2020 pandemic year is a result of many establishments closing during this period. However, the growing demand and possibly planned establishments prior to the pandemic period are responsible for the growth in 2021.

Figure 4. Number of beds per 1000 inhabitants in the study area.



Source: Own elaboration

In Figure 4 it is possible to analyse the number of beds available in hotels, rural houses, and tourist apartments, per 1000 residents, in each region. It makes it possible to assess tourist pressure, through the relationship between the number of beds in tourist accommodation and the number of residents in each region.

The obvious difference between both municipalities may be attributed to the population density difference between them, where Torres Novas nearly doubles the value of Golegã reducing the number of beds per 1000 inhabitants.

Despite populational density differences the pandemic period affected both municipalities in a similar manner with Golegã observing a 44% reduction from 2016 to 2020 and Torres Novas a 42% reduction, though recovery to 2022 is considerably higher in Golegã 39% when compared with the 30% of Torres Novas.

The result from tourism carrying capacity calculations in Table 6 calculates the Real Carrying Capacity (RCC) for all identified facilities and events taking place within both municipalities in study. To complete all the RCC calculations, it was considered important to assess the overall territorial carrying capacity (Table 6).

Table 6. Real Carrying Capacity results for all identified tourism activities in both municipalities.

Name	Type	Area(m2)	BCC	PCC	Lf1	Lf2	RCC	Category	RCCY	Restrictions
Horse Fairground-Feira Nacional do Cavalo	Culture	20282	811	1081	0,753425	0,978082	7969	Cultural	111569	
Relvas Museum	Culture	225	9	12	0,753425	0,978082	9	Arts	1591	
Martins Correia Museum	Culture	577	23	31	0,753425	0,978082	23	Arts	4081	
Azinhaga Village - Saramago	Culture	486005	19440	25914	0,753425	0,978082	1910	Literature	343731	0,1
Almonda Spring	Swimming	539	5	14	0,506849	0,975342	7	Natural	1279	
Lapas caves	Caves	114	6	23	0,506849	0,978082	11	History	2035	
Boquilobo Nature Reserve	Trekking/Hiking	8176018	272534	499555	0,506849	0,972603	246	Natural	44327	0,001
Torres Novas castle	Culture	6771	271	361	0,753425	0,978082	266	History	47888	
Rose garden	Culture	29224	1169	1558	0,753425	0,978082	1148	Natural	206689	
Dry fruits fair	Culture	3603	144	192	0,753425	0,978082	142	Cultural	1416	
Riachos_Cattle fair	Culture	718158	28726	38292	0,753425	0,978082	2822	Cultural	11287	0,1
Dinosaur footprints	Culture	37172	1487	1982	0,753425	0,978082	1461	Natural	262902	
Aire and Candeeiros Natural Park	Culture	20309350	812374	1082895	0,753425	0,978082	7980	Natural	1436395	0,01
Boquilobo Biosphere	Cycling	50131652	100263	160421	0,506849	0,972603	7908	Natural	1423472	0,1
Horse Fairground-Expo Égua	Culture	20282	811	1081	0,753425	0,978082	797	Cultural	6375	
Horse Fairground-Olé Golegã – Bulls and horses	Culture	20282	811	1081	0,753425	0,978082	797	Cultural	2391	
Villa Cardilio Roman ruins	Culture	200	8	11	0,753425	0,978082	8	History	1415	
Quinta de S. João Batista	Culture	1000	40	53	0,753425	0,978082	39	Agriculture	7073	
Carlos Reis Municipal Museum	Culture	200	8	11	0,753425	0,978082	8	Arts	1415	
Almonda Festivities	Culture	29224	1169	1558	0,753425	0,978082	1148	Cultural	11483	
Agriculture Museum	Culture	200	8	11	0,753425	0,978082	8	Cultural	1415	
								TOTAL	3928812	

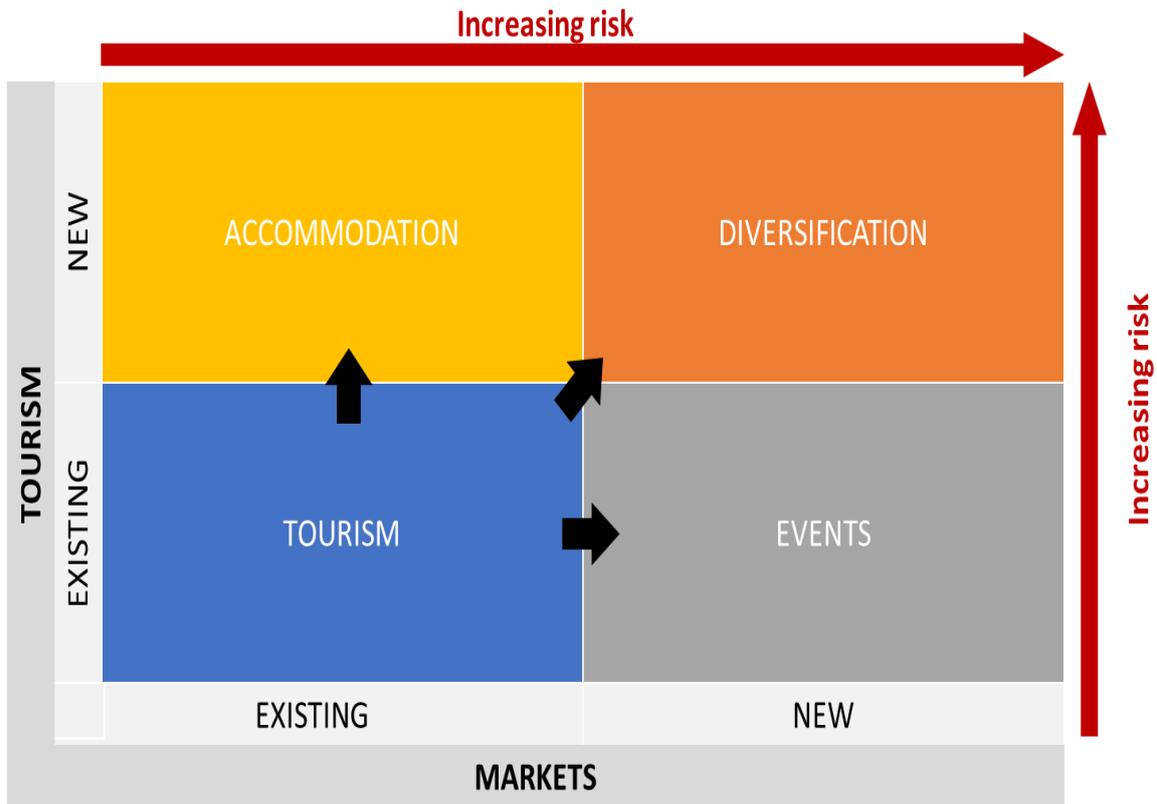
Source: Own elaboration

The twenty identified activities delivered daily RCC considered adequate to the observed characteristics of each event and place where they occur, serving the valuable planning purposes for a quality tourism in the region. It is obvious that some events observe values over the calculated carrying capacity, one example is the “Feira Nacional do cavalo” which claims 150.000 tourists, a value considerably higher than the acceptable carrying capacity, requiring a thorough rethinking of the space available for this event. Whereas others despite the low RCC, such as museums, can hold a larger number of daily visitors.

The big question is whether the Municipalities are devising a proper tourism strategy and if the facilities currently in place are adequate. Assuming that tourism is rather ephemeral with results depending on fashionable market trends, one needs to be careful as to how much can a region develop without taking a high risk of failure. Figure 5 exemplifies the way tourism can grow in these municipalities as a growth matrix. As with any growth model, risk and different growth design routes are proposed, which in this case considers Accommodation, Events and a mix of both as Diversification.

One strategy can be the development of tourist accommodation, considering the space available for growth since in 2022 the values are lower than those observed in 2019. The risk associated is in many ways similar to that observed in 2020 during the pandemic.

Figure 5. Adapted tourism growth matrix



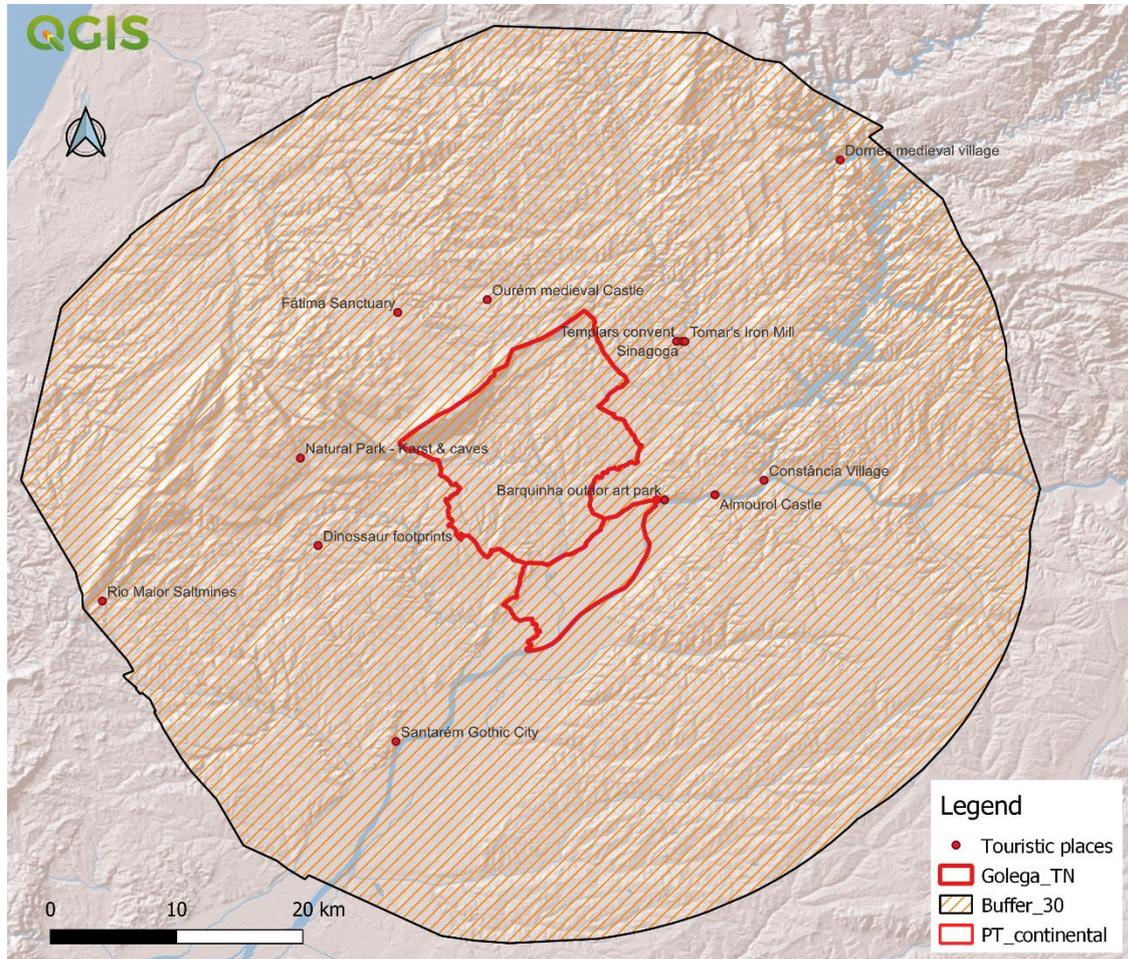
Source: Own elaboration based on Ansoff, 1957 matrix

A second strategy can be to follow a tight events programme guaranteeing that tourists will follow, this will create a market however does not guarantee an increase in tourism, neither the required sustainability. A third strategy can be diversification of both accommodation facilities with associated quality and a coordinated set of events guaranteeing a thorough coverage of both low and high season.

Finally, the idea that regions are islands is often inadvertently assumed by researchers, however a region may possess its touristic assets attracting tourists that will stay for shorter periods. If a correct marketing strategy involves the visiting probable sites within a comfortable visiting distance, may influence tourists to longer stays. After determining a comfortable visiting distance of 30Km, a buffer was designed using QGIS, and all sites with visiting interest were inventoried (Fig. 6).

From the buffer in Figure 6, thirteen places of visiting interest, meaning they hold over 100.000 visitors per year, were identified. This vision offers a wider range of visiting options while conferring a possible marketing strategy.

Figure 6. Thirty Km buffer from the limits of the study area, and tourist visiting locations.



Source: Own elaboration QGIS

5. CONCLUSIONS

The assessment of tourism carrying capacity can be a powerful basis for tourism management and control. The overall tourism carrying capacity in Torres Novas and Golegã is 3.928,812 tourists/year with a total beds count of 410,487, which with a 66% occupation estimate from the National Tourism Institute proposes the existing tourists on the region to be 270,922 tourists/year. This means that existing tourists only reach 6,9% of the overall tourism carrying capacity. Therefore, the region holds an enormous potential for tourism development assuming it plans as a priority tourism improving the current tourism indicators.

The recommendation for tourism development in the municipalities of Torres Novas and Golegã, besides coordinating efforts, is the development of rural and nature tourism as the main potential where the number of tourists must be kept below carrying capacity. Overall, the tourist that visit the region have a relatively short stay, therefore the concept

of proximity to a wide range of activities, while keeping a paced quiet rural setting could be proposed as a regional marketing strategy. Additionally, the number of tourists can be increased up to 5 times from the existing condition. The regional tourism development must also pay attention to the natural protected areas that have a limited number of tourism carrying capacity, hence the focus on indicators such as preservation function or economic benefits and not solely on the number of tourists. Moreover, the activities offered in the regions should be coordinated between both municipalities and correctly spaced in time to overcome low season effects.

Overall, the huge regional potential calls for a balanced regional development, not only from tourism benefits but also environmental outcomes as a concertized strategy, where stakeholders need to participate and understand tourism carrying capacity to achieve the so important sustainable tourism development.

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