

# Measuring Social Tourism Sustainability in Porto Municipality: The Views of Residents

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**Abstract:** In the previous decade, tourism planning and destination management efforts have focused on sustainability, particularly in its environmental pillar. In the last years though (and specially in destinations with high growing rates and risks of over tourism) the social dimension has gained importance, also as consequence of increasing awareness about the need and relevance of governance for the sector. The aim of this paper is thus to address the phenomenon of (over)tourism in Porto area, and more recently, the zero tourism: how is tourism affecting residents' life from their own perspective? ETIS - European toolkit for sustainable destination management was the indicator system used to develop this exercise, once it has already been adapted to the country's reality by the national tourism authority (Turismo de Portugal). Results concerning residents' and local authority representative's feelings about tourism and implications to local community, both from an economic and cultural environment perspectives, how these affect quality of life in the historical centres, are described. The study exposes different perspectives both with regard to advantages and disadvantages, but overall there is evidence that tourist development is widely accepted, considering it does not penalize the well-being of the resident population. Finally, results are discussed considering existing literature focusing on tourism sustainability in Porto, on a pre-covid and post-covid perspective.

**Keywords:** sustainable tourism, monitoring indicators, Porto, residents' views

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## 1. Introduction

Sustainability is the upmost underpinning in any tourism planning process, in any territory. Although until recently the concept was mainly associated with environmental aspects (e.g. Loureiro et al., 2012), recent works highlight its multidimensionality, focusing also on economic and social aspects. Within the sustainability approach, integrated planning and monitoring of tourism development can minimize the impact on the environment and local culture, while contributing to generate local income and employment (UNWTO, 2018; Marujo and Carvalho, 2010). Moreover, research highlights the impact sustainability aspects have on visitors, influencing their choices and preferences.

In most European destinations tourism flows have concentrated in cities and historic centres (Garcia-Hernandez et al., 2017). Over the years, the rapid and spectacular growth in visitor numbers gave rise to touristification, a process of change in urban forms and functions, recently considered as phenomena of "overtourism" (UNWTO, 2018). Concerns with social and cultural carrying capacity have gained attention, particularly the views of residents, particularly in the context of historic city centres (Blasco et al., 2018; Chen et al., 2020). Most of these centres are protected under each country's legislation and many of are included in the UNESCO List of World Heritage Sites (Garcia-Hernandez et al., 2017). But the relevance of Tourism and its implications for local development, and cultural heritage preservation and/or destruction is far from a consensus. Built heritage and cultural traditions preservation are confronted with the need for modernity and economic revitalisation (Chen and Chen, 2011; Zhu et al, 2017). In the midst of covid-19 scenario many tourist destinations are looking back to overtourism, longing for a return to having too many visitors rather than too few or none (Butler, 2020). Pre or post-covid situations, although rather different, illustrate the same concern: efficient tourism management requires well defined monitoring strategies, in order to reveal major problems and anticipate solutions (Butler, 2020; UNWTO, 2018). Aware of this essential starting point, early approaches to monitoring sustainability of tourism are established, being of particular relevance for this paper the launch of the European System of Tourism Indicators (ETIS) by the European Commission (European Commission, 2006). ETIS is a management, information, and supervision tool, specifically aimed at sustainability of tourist destinations (Pardo et al., 2021). The basic idea is to be able to collect and analyse data with the general objective of evaluating the performance

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and progress of tourism sustainability in a destination over time (Tudorache et al. 2017). It is composed of 42 main indicators, being the measuring of tourism impact from residents view one of them.

The aim of this study is thus to understand the social impacts that tourism can have in the context of the historic centre of Porto, from the perspective of residents, with data collected during may 2020, in a early stage of covid scenario. The paper is structured as follows: after the introduction, the literature review section discusses the sustainability approach, in particular the social dimension, the relevant indicators and monitoring aspects. The characteristics of tourism in Porto, the methodology employed to collect and analyse the data are debated in the third section. Results will be presented in the fourth section and practical implications discussed in the final part of the paper.

## **2. Literature review**

Although there is a generalized agreement about what is meant by 'sustainable tourism', there is an array of studies covering its multidimensional and holistic realm, bringing together social, environmental and economic perspectives (Fernández & Rivero, 2009). The major challenge identified in the literature, though, is how to meet and maintain the desired balance, counteracting the impacts of too much or too little (Butler, 2020; Liu, 2003), a goal which requires measurement and monitoring activities (Butler, 2007). Monitoring corresponds to the implementation of actions aiming at a continuous assessment, to evaluate the results achieved in relation to the established goals, and identify deviations in a timely manner, thus making it possible to control the actions that follow (Miller and Ward, 2005). It is important to cover a wide range of views, namely the built environment (Lerario and Di Turi, 2018), and residents alike (Kalvet et al., 2017), and not to assume that economic development automatically promotes sustainability (Moscardo and Murphy, 2014).

## **3. Monitoring residents' perceptions of tourism**

Currently, the satisfaction of the resident population towards tourism is an important aspect for any destination. As these are the primary stakeholders being affected by, and affecting the development of tourism activity, as well as its sustainability (Eusebio and Carneiro, 2012; Elorrieta et al., 2022), to ensure residents' satisfaction is a prerequisite of responsible tourism development (Jamal, et al., 2013, and condition for creating environments that meet their specific needs (Bornioli, et al. 2022). Furthermore, assessing the potential lifestyles of urban residents is also necessary to target and attract those who share the expectations of existing residents and to enhance the value of city assets (Eusébio and Carneiro, 2012). Monitoring the sustainability of a destination is seen as a fundamental feature, often referred to as the community wellbeing approach to tourism planning at destination level (Marujo and Carvalho, 2010).

## **4. Importance of residents in tourism development**

Communities/residents are important and essential for tourism and its development but tourism is also very important for communities development (Martín et al., 2018). The quality of a destination depends largely on the opinion of its visitors (Huaman-Ramirez, et al., 2021), as it depends on the relationship between the tourism product and the local population. It is therefore essential that the relationship between tourists and residents is positive (Elorrieta et al., 2022). Thus, a goal of tourism should be to satisfy residents, ensuring a positive integration of tourism into resident populations, as these are the primary stakeholders for the growth of tourism activity, as well as its sustainability, enabling the success or failure of a destination (Freeman et al., 2007; Eusebio and Carneiro, 2012). Stimulating activities should be created not only for visitors but also for residents, encouraging the participation of residents in tourism by providing them with jobs, so that they do not feel uncomfortable with tourism and feel that they have plenty of benefits (Tourism Strategy, 2027).

## **5. Sustainability in tourism and monitoring system in Portugal**

Over time, the tourism sector has gained a prominent role in Portugal, although reference to sustainability approaches in order to enhance development and competitiveness is rather recent (Carvalho and Borges, 2017). Strategic tourism related documents define concrete goals in each of the three pillars of sustainability, through a broad and stable framework of metrics and indicators namely within post-COVID-19 sector recovery strategy (Araujo, 2017; Turismo de Portugal, 2020). The collection, treatment and dissemination of official information about tourism is under the responsibility of Instituto Nacional de Estatística, i.p (INE), alongside with Turismo de Portugal, i.p., made available through Travel BI platform (Turismo de Portugal, 2020). Data made available is mostly quantitative, and reporting entities that prevail are the accommodation units and data associated. The released indicators, essentially seek to meet the demand for each type of accommodation, with volume

indicators for overnight stays, guests, settlers or campers prevailing, and the average length of stay in establishments (Diniz et al., 2017). Indicators focusing on the social perspective refer mainly to tourist **density** (number of overnight stays/km<sup>2</sup> of a given area); and tourist **intensity** (overnight stays/100 inhabitants). Both indicators aim at reflecting about the tourist pressure on a given region and the local community. Other qualitative aspects like residents' satisfaction are researched on a rather ad hoc basis, and studies scarce, mostly conducted for academics purposes (e.g. Azevedo, 2010; Martins, 2019; Silva, 2017; )

This study aim is thus to address the phenomenon of (over)tourism in Porto area, and more recently, the zero tourism: how is tourism affecting residents' life from their own perspective?

## 6. Methodology

### 6.1 Study area

The area under study is the historical city centre of Porto, northern Portugal, the second largest city and one of the oldest tourist destinations in Europe. It's located on the coast of the Northern Region, considered the capital of the North and stretches along the right bank of the Douro river. The city has a diverse and solid transport network, including air, road, rail and cruise, facilitating the arrival of tourists. (AMPorto, s.d.).

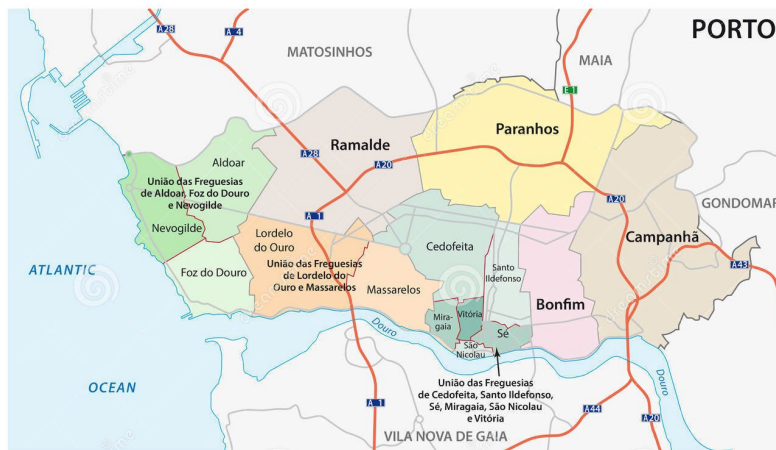


Figure 1: Map of Porto and its historical centre

### 6.2 Tourism in Porto

Porto offers numerous historical, cultural and recreation opportunities, both for residents and tourists. The city became known worldwide for its Port Wine Cellars (VisitPorto, s.d.) but nowadays its cultural and tourist value is based on being simultaneously a contemporary and traditional city, with its Historical Centre classified as Cultural World Heritage by UNESCO, since 1996 (Catarina Ramos, 2010). Moreover, the city has developed in terms of diversity of tourist offer, new infrastructures and accessibility capable of hosting world-class events, such as the European Capital of Culture in 2001. Its recognition as a tourism destination has already resulted in several awards. In 2017 was named the "Best European Destination" for the third time and in 2020 it was elected the "Best City Break Destination in Europe" (UCP, s.d).

Over the last years, especially until 2019, tourism in Porto was so intense and had been growing so rapidly, to the point of starting causing pressures and impact on residents' daily lives and living conditions (Verissimo et al., 2020). The development trajectory was towards the emergence of overtourism, associated with short-term accommodation, particularly on the historical city quarters (Costa et al, 2019). In 2019, the city had 110 tourist accommodation units, with 15.693 beds. In addition to that, a total of 7.872 units of *alojamento local* (AL), corresponding to 23 011 beds. About 5.666 of these AL units were in the Historical Centre (72%) (Pinheiro, 2019). A total of 4 587 237 overnights and 2 245 291 guests was registered in Porto, in 2019 (both traditional accommodation units and AL). Tourism Density (overnights / km<sup>2</sup> (41,42 km<sup>2</sup>)) in Porto was of 110.749 in 2019, and Tourism Intensity (overnight stays in tourist accommodation per 100 inhabitants) was of 2.124,3 (numbers are only available for the entire municipality).

In 2020, accommodation in Porto, as in the whole country, was largely affected by Covid pandemic, reveals a considerable decrease, but the number of AL units have increased, totalizing 32 667 beds, of which 22 103 in the Historical centre. Despite being generally small in size and low in capacity, the number of units of AL is rather high, and very concentrated, likely to cause “pressure” in the communities living on central areas of Porto.

### **6.3 Research design**

This research has adopted a mix method approach, combining quantitative and qualitative methods, namely a survey through means of questionnaire, being applied to residents living in the historical centre of Oporto and an interview to the president of the Union of Parishes of the Historic Centre of Porto (Sé, Vitória, Cedofeita, Santo Idefonso, Miragaia, São Nicolau).

### **6.4 Population and sampling procedures**

The target population was all inhabitants living in the centre, which according to 2011 census is 40.440 inhabitants (INE, 2012). A non-probabilistic, convenience sampling approach was employed, but cases were chosen in order to meet the structure of local population profile (age, gender, students, workers, etc.) (Veal, 2018).

### **6.5 Data collection**

In drawing up the questionnaire, closed questions were mostly used, aiming at identifying the sample profile (including time of residence), the resident's views and attitudes towards tourism, in particular the existence of economic and cultural opportunities and constraints caused by tourism. For questions concerning perceptions of residents, a five-point likert-type scales were used, as occurs in most studies in the area of tourism (Vagias, 2006).

Questionnaire data was collected face to face (Bäckström, 2008; Alreck and Settle, 1995). In spite of the constrains imposed by COVID pandemic, the online survey was not chosen as it is easier to lose control of whom we are surveying, and the results were likely to be not representative of the population, due to the existence of socio-economic differences between people who use the Internet. Moreover, the response rate tends to be lower given the difficulty of recruiting participants (Morris and William, 1946). A pre-test was carried out, with thirty people living in the Historic Centre of Porto, in the last week of April 2021. Results enabled to conclude the questionnaire was fit to collect the intended information (Veal, 2018). Main data collection was performed by a group of 5 trained researchers during May 2021. Respondents were approached in several outdoor public areas and homes, and only residents were invited to fill the questionnaire. In total 365 questionnaires were considered valid and fit for analysis.

### **6.6 Data analysis**

Quantitative data was analysed through SPSS, both for descriptive and inferential purposes (Pallant, 2020). The inferential analysis was aimed at exploring the existence of differences between groups of respondents based area of residence (independent variables). According to different studies, proximity of residents to locations with higher tourism pressure perceive tourism impacts to a great extent, namely negative ones (e.g. Devine et al., 2009; Muresan et al., 2019; Verissimo et al., 2019). The specific test used was Kruskal-Wallis in order to, compare scores on continuous (dependent) variables referring to perceptions about tourism impacts.

## **7. Results**

The data collection process enabled to have a sample that is well balanced in terms of the identified strata (Table 1). Two of the Parishes, Cedofeita (50%) and Santo Idefonso (21%) have more responses, as these are also the ones with more inhabitants. The others are more central, prevailing other types of use such as commerce and cultural facilities. All age groups are well balanced and equally represented, as well as gender (nearly half female and half male). Most respondents are active, either self-employed or in paid employment, having at least an intermediate level of education (30% finished the 9<sup>th</sup> grade, 25% completed secondary school and 25% have an academic degree), and well acquainted with the city centre, as they have generally lived there for a long time (half of respondents lived there for more than 25 years). We can anticipate respondents are well acquainted with the city and tourism development.

**Table 1:** Respondent’s profile (n=365)

Residence parish	N	%	Civil status	N	%
Sé	35	9,6	Single	104	28,5
Vitória	22	6,0	Married/non-marital cohabitation	185	50,7
Santo Ildefonso	76	20,8	Divorced/separated	36	9,9
Miragaia	30	8,2	Widowed	40	11,0
Cedofeita	181	49,6	<b>Academic qualifications</b>		
São Nicolau	21	5,8	Cannot read or write	1	0,3
<b>Length of residence in the area</b>			Can read and write without attending school	2	0,5
<10 years	60	16,4	1st cycle (primary education)	75	20,0
11-25 years	117	32,1	Intermediate (9th grade)	112	29,9
26-49 years	101	27,7	Secondary/professional education (12th grade)	93	24,8
>50 years	87	23,8	High education	92	24,5
<b>Age</b>			<b>Labour status</b>		
18-23 years	47	12,9	Domestic	7	1,9
24-35 years	81	22,2	Student	38	10,4
36-50 years	93	24,5	Self-employed	54	14,8
51-64 years	61	16,7	Retired	68	18,6
+65 years	83	22,7	Unemployed	21	5,8
<b>Gender</b>			Seeking 1st job	9	2,5
Female	191	52,3	Employee of someone else	174	47,7
Male	174	47,7			

Source: authors’ elaboration

As mentioned above, and in accordance with the literature the place of residence and closeness to areas where tourism is more intense, is considered as being likely to have an influence on residents perception about tourism and its impact on their lives and way of living (Cardoso and Silva, 2018; Muresan et al., 2019; Veríssimo et al, 2020). This is the case of more central Parishes, where inhabitants are likely to be more affected by dense tourism flows. Therefore comparisons of perceptions were made between all parishes (Kruskal-Wallis test was performed) and results are presented in accordance, both for positive impacts (Table 2) and negative impacts (Table3). Respondents were asked to express their agreement about a number of opportunities and constraints which could be conveyed by Tourism. For the present analysis 5 items of each were selected. Answers were given on a 5 points Likert-type scale, ranging from 1=totally disagree to 5=totally agree.

**Table 2:** Perceptions about positive impacts

	N	M	Md	MR
<b>Improved the image of the Historical Centre.</b>				
Sé	35	4	4	181,60
Vitória	22	4	4	188,66
Santo Ildefonso	76	4	4	178,53
Miragaia	30	4	4	183,23
Cedofeita	181	4	4	183,58
São Nicolau	21	4	4	190,29
Total	365			
Kruskal-Wallis test results	H=0,401 df=5 p=0.995			
<b>Infrastructure improvement</b>				
Sé	35	4	4	202,06
Vitória	22	4	4	164,80
Santo Ildefonso	76	4	4	168,00
Miragaia	30	4	4	184,88
Cedofeita	181	4	4	186,19
São Nicolau	21	4	4	194,38
Total	365			
Kruskal-Wallis test results	H =0,311 df=5 p=0,379			
<b>Opportunities for local businesses</b>				
Sé	35	4	4	192,17

	<b>N</b>		<b>M</b>		<b>Md</b>		<b>MR</b>
Vitória	22		3		4		152,18
Santo Ildefonso	76		4		4		170,06
Miragaia	30		4		4		172,08
Cedofeita	181		4		4		196,48
São Nicolau	21		3		3		146,26
Total	365						
Kruskal-Wallis test results	H=10,309 df=5 p=0,067						
<b>Increased jobs for residentes</b>							
Sé	35		4		4		198,54
Vitória	22		4		4		150,16
Santo Ildefonso	76		4		4		182,24
Miragaia	30		4		4		198,35
Cedofeita	181		4		4		188,14
São Nicolau	21		4		4		128,07
Total	365						
Kruskal-Wallis test results	H =12,309 df=5 p=0,033						
<b>Enabled heritage preservation</b>							
Sé	35		4		4		197,40
Vitória	22		4		4		194,80
Santo Ildefonso	76		3		4		174,99
Miragaia	30		4		4		209,25
Cedofeita	181		3		4		177,94
São Nicolau	21		4		4		181,71
Total	365						
Kruskal-Wallis test results	H=4,772 df=5 p=0.444						
N = cases. M=mean. Md=median; MR=mean Rank; X <sup>2</sup> = Chi-square; df= degrees of freedom; p= significance level							

According to the results, residents, in general, have a positive perception about Tourism, manifesting agreement (mean=4 ) with all opportunities and benefits associated, namely contributing to the overall image of the historic centre, improvement of infrastructures, opportunities for local businesses, and heritage preservation. Very few exceptions, namely concerning more job opportunities. Kruskal-Wallis results show apparent statistical differences, although minimal (H =12,309 df=5 p=0,033). This could anticipate, in accordance with literature (Cardoso and Silva, 2018; Muresan et al., 2019; Verissimo et al, 2020) that in parishes where tourism is more intense, residents perception about tourism and its impact is slightly less positive. Post-hoc test were performed, and significance values adjusted with Bonferroni correction reveals differences were not significant.

Residents views about negative aspects were less homogeneous (Table 3). All respondents agree that Tourism has contributed to the increase of prices and services (m=4), which is in line with the literature (Cardoso e Silva, 2018; Verissimo et al., 2020). All respondents from all Parishes have a neutral position (m=3) about Tourism causing environmental degradation of the city center, or disrupting daily life of residents (m=3). No statistically significance differences were found.

**Table 3:** Perceptions about negative impacts

	<b>N</b>		<b>M</b>		<b>Md</b>		<b>MR</b>
<b>Increased prices of goods and services</b>							
Sé	35		4		4		169,10
Vitória	22		4		4		152,82
Santo Ildefonso	76		4		4		167,56
Miragaia	30		4		4		193,77
Cedofeita	181		4		4		189,32
São Nicolau	21		4		4		223,79
Total	365						169,10
Kruskal-Wallis test results	H=10,355 df=5 p=0.066						
<b>Environmental degradation .</b>							
Sé	35		3		3		188,10
Vitória	22		3		3		193,05
Santo Ildefonso	76		3		3		187,92
Miragaia	30		3		3		182,78
Cedofeita	181		3		3		180,52

	<b>N</b>		<b>M</b>		<b>Md</b>		<b>MR</b>
São Nicolau	21		3		3		167,81
<b>Total</b>	<b>365</b>						
<b>Kruskal-Wallis test results</b>	H =1,100 df=5 p=0.954						
<b>Reduced traditional shopping.</b>							
Sé	35		2		2		180,03
Vitória	22		2		2		158,86
Santo Ildefonso	76		2		2		188,89
Miragaia	30		2		2		171,93
Cedofeita	181		2		2		187,28
São Nicolau	21		2		2		170,86
<b>Total</b>	<b>365</b>						
<b>Kruskal-Wallis test results</b>	H =2,836 df=5 p=0,725						
<b>Causes loss of cultural identity</b>							
Sé	35		2		2		177,90
Vitória	22		2		2		172,50
Santo Ildefonso	76		2		2		184,72
Miragaia	30		2		2		195,55
Cedofeita	181		2		2		180,07
São Nicolau	21		2		2		203,64
<b>Total</b>	<b>365</b>						
<b>Kruskal-Wallis test results</b>	H=1,946 df=5 p=0.857						
<b>Disrupts daily life of residents</b>							
Sé	35		3		3		191,24
Vitória	22		3		3		174,68
Santo Ildefonso	76		3		2		168,23
Miragaia	30		3		3		197,48
Cedofeita	181		3		3		186,69
São Nicolau	21		3		3		178,90
<b>Total</b>	<b>365</b>						
<b>Kruskal-Wallis test results</b>	H =2,948 df=5 p=0.708						

N = cases. M=mean. Md=median; MR=mean Rank;  $\chi^2$ = Chi-square; df= degrees of freedom; p= significance level

On the other hand, residents from all Parishes disagree with the possibility of Tourism having impacted negatively the city centre by reducing traditional shopping facilities, or causing the loss of the community's cultural identity (m=2 on both cases).

According to the local authority representative (Presidente da Junta), the more positive perspectives are still largely influenced by tourism results before Covid, particularly between 2010-2017. Tourism happens in a well-distributed way all year round, and is not seasonal, offering employment opportunities for residents, which are themselves good ambassadors of the city, and very hospitable to tourists. The most worrying and negative perception is regarding prices in general, and residences in particular, the fact that locals are not able to pay a rent in Porto Historic centre. Concerns were shared though, based in the pandemic, about the impacts few visitors can have, but also whether tourism is going to recover and if so, will it reach excessive numbers again.

## 8. Discussion and conclusions

Although the results illustrate that Tourism can both positively and negatively affect local residents (as referred by Butler, 2020), its opportunities and benefits are considered to a greater extent. As stated by Azevedo, (2010) residents in Porto historical center also agree that an increase in visitors implies a growth in the local economy, increasing job opportunities. As literature review had also already advanced a positive effect of tourism in historical centres is urban rehabilitation (UNWTO, 2018; Marujo and Carvalho, 2010). Residents are conscious that the development of tourism has promoted the rehabilitation of buildings that had been degraded for years, in the most well-known areas such as Ribeira and Sé. There is also agreement with the literature about a very positive view and evaluation of the social impacts of tourism as it contributes to the development of the city infrastructures in general particularly in the years pre-covid, as identified by other studies (Gomes, 2020; Silva, 2017; Martins, 2019). Caution is suggested though when interpreting these positive perceptions, as residents were likely to be influenced by low levels of visitors and inherent economic depression, caused by Covid-19.

A good knowledge of the population about the sector can be expected, as most were living in the centre for a decade or more. Throughout the last years, environment and urban landscapes were not seen as affected by tourism as well the town's quality of life was not jeopardised. The resident population in general enjoys tourism and knows how to receive and welcome tourists and, as a very positive point, local residents themselves already promote tourism, not existing relevant complaints. The most worrying and negative perception is regarding prices in general, and prices of houses in particular, what coincide with other past studies (Gomes, 2020; Silva, 2017). As opposed to this, a positive assessment in terms of the overall perception and image of the town, through the creation of cultural activities, as well improving aspects related to safety, cleanliness and the dynamization of the city. Although figures aren't available yet, in 2021, with all the impacts of Covid-19, tourism felt to unprecedented low levels, moving from over to under scenarios. Both extremes are now widely acknowledged as potentially causing negative and undesirable impacts near the local inhabitants (Butler, 2020).

Some concern in what regards the ability of tourism to recover and how long it will take. But past numbers and trends towards overtourism are not envisaged as desirable either.

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