

# A plan for sustainable tourism

Tools and strategies to  
guide local authorities

Curriculum: **FLUID DYNAMICS AND  
ENVIRONMENTAL ENGINEERING**

Student name: Selena Candia

Supervisor: Professor Francesca Pirlone



**Università  
di Genova**

# A plan for sustainable tourism

Tools and strategies to guide local authorities

## TABLE OF CONTENT

INTRODUCTION	4
1. TOURISM: ONE OF THE BIGGEST INDUSTRY OF THE 21ST CENTURY	9
1.1 TOURISM AT A GLANCE	10
1.1.1 Covid-19 impacts on the tourism sector	15
1.1.2 Tourism in the post covid era	16
1.2 FROM MASS TOURISM TO OVER TOURISM	19
1.3 TOURISM IMPACTS	23
1.3.1 Economic Impacts	23
1.3.2 Social Impacts	28
1.3.3 Environmental Impacts	35
1.4 SUSTANABLE AND RESPONSIBLE TOURISM DEFINITION	42
2. TOURISM MANAGEMENT AND PLANNING: LITERATURE REVIEW	55
2.1 SUSTANABLE TOURISM PLANNING	56
2.1.1 Participation for sustainable tourism planning	63
2.1.2 Best practices in sustainable tourism planning worldwide	67
2.1.3 State of the art of tourism planning in the Mediterranean region	79
2.1.4 Policies to regulate short rental	83
2.2 TOURISM CARRYING CAPACITY	89
2.2.1 Tourism Carrying Capacity formulas	95

3. TOURISM MANAGEMENT AND PLANNING: GUIDELINES FOR LOCAL AUTHORITIES	102
3.1 A NEW PLAN FOR RESPONSIBLE TOURISM	103
3.1.1 Background	105
3.1.2 Situation Analysis	110
3.1.3 Community involvement	129
3.1.4 Planning part	138
3.1.5 Plan implementation and monitoring	144
4. CASE STUDY: THE CINQUE TERRE NATIONAL PARK	147
4.1 CINQUE TERRE, THE LITERATURE AND MEDIA NARRATIVE. FROM 'PARADISE' TO 'NIGHTMARE'	149
4.2 THE SUSTAINABLE PLAN FOR TOURISM OF THE CINQUE TERRE NATIONAL PARK	160
4.2.1 Background, Cinque Terre National Park STP	162
4.2.2 Situation Analysis, Cinque Terre National Park STP	174
4.2.3 Community involvement, Cinque Terre National Park STP	202
4.2.4 Planning part, Cinque Terre National Park STP	213
4.2.5 Plan implementation and monitoring, Cinque Terre National Park STP	233
CONCLUSION	236
THANKS	241
REFERENCES	242
SITOGRAPHY	267

# Introduction

## Why urban planning is so important for managing tourism development?

In the last decades, the tourism sector has experienced continuous growth. In 2019, tourism, as economic sector, surpasses oil exports and food production in terms of business turnover (UNWTO, 2019). Only the pandemic from covid-19 stopped this trend, but the current data show how tourism is fast approaching pre-covid levels. In 2019 the tourism industry generates the 10.4% of world's GDP, the 7% of global trade and 10.3% of all jobs, according United Nations World Tourism Organization (Tourism highlights). In 2022 this industry contributed 7.6% to global GDP increasing of 22% from 2021 and getting closer and closer to pre-pandemic levels (only 23% below 2019 levels).

The collapse of tourism caused by the pandemic is forcing many destinations to rethink their economic model (Pepe and Percoco, 2021), by focusing on sustainability and innovation (Galvani et al., 2020). Tourism has proven to be a vulnerable industry, and the economies that were most dependent on it are the ones that have suffered the most from the stop of travellers. To jumpstart the industry in the post-COVID era, therefore, we must focus on this new environmental consciousness. To succeed in this, it is important that all the actors involved—tourists, residents, public administrations, and private businesses—act by pursuing common goals (Aref et al., 2010; Amerta et al., 2018). The sustainable destination is intended as a “host community” and the tourist or visitor is a kind of “temporary citizen” (Pirlone and Spadaro, 2017). To support responsible tourism, it is also important to develop new tourism plans and solutions that take into account the tourism impacts (Ruhanen, 2008; Simão and Partidário, 2012). Because, if on the one hand, tourism can be considered as an opportunity to improve the quality of life and income in host countries, on the other hand, it can contribute to the degradation of the landscape, the growth of inequality, cultural loss, immoderate consumption of resources (energy, water, land, etc.), and increase in waste production and transport demand (Balsalobre-Lorente et al., 2020; Pigram, 2016). Tourism is a total industry, as soon as it succeeds in gaining influence over a region and a local society it changes the activities of every other sector in its favour: construction, trade, crafts, public works, real estate, catering, health, etc. In just a few years, tourism is capable of completely transforming places. More and more services will be offered to visitors, forcing inhabitants to move elsewhere to find lower prices, affordable housing, less crowded places and public transport, neighbourhood shops, etc. (Christin,

2017). From an environmental perspective, tourism is globally responsible for 8% of all carbon dioxide emissions, the most important greenhouse gas causing climate change (Ghosh, 2022). However, in terms of radiative forcing, the direct measure for contribution to climate change, tourism even could have share of up to 12.5% (Hall, 2016; Eijgelaar and Peeters, 2021). Moreover, the greenhouse gas emissions of tourism are estimated to grow at a rather large rate, while globally emissions should be reduced with up to 80% by 2050 (Gössling, 2013). Finally, it has been shown that the eco-efficiency—the economic contribution per ton emissions—of tourism is rather low (Gössling et al., 2005). These data totally clash with the view, actually slightly common to many researchers in the past, according to which tourism is a low environmental impact industry (McKercher and Prideaux, 2011; Furqan et al., 2010). Now, it is a shared concept that tourist activities are strongly related to the environment (Zhong et al., 2011; Buckley, 2012). On the one hand, the natural environment itself may be considered as a major input resource to the processes of tourism industries, and, on the other hand, the development of tourism as a mass industry may severely increase its overall impact on the environment (De Camillis et al., 2010; Romeril, 1989). Despite an increasing number of publications in recent years highlighting the negative environmental and social impacts of tourism (Gössling and Peeters, 2007; Zhang and Zhang, 2018), the majority of national and local governments continue to treat the tourism industry solely from an economic point of view. Existing tourism plans are mostly territorial marketing tools and not tourism management (spatial, resource requirements, flows, etc. (Candia et al., 2018). But in many destinations besieged by tourists the tourist mystification has begun to crack. Cities like Venice or Dubrovnik are struggling to cope with the impacts of mass tourism. Barcelona, after witnessing phenomena of *tourismphobia* from its city residents, became one of the first European destination to adopt an urban plan capable of regulating the phenomenon of short-term rentals, which involves apartments no longer available to locals because they are designated as holiday apartments on platforms like Airbnb (Bei and Celata, 2023). “City planner have to face the new dimension of tourism as mass phenomenon by disposing adequate plan, strategies and actions to manage this new urban demand” (La Rocca, 2005: 12).

The unmanaged flow of tourists has a negative influence on the quality of life of citizens and local culture. When many tourists are concentrated in one place, cultural conflicts and the loss of the identity of places can occur, resulting in a homogenisation of destinations and tourist offer. Territories become stage sets and inhabitants figurants (Christin, 2017). In these cases, following Doxey's (1975) definition of the irritation index, one can speak of overtourism. That is, at first the local population welcomes tourists

because they recognize the positive economic effects on the area. Subsequently, the locals lose enthusiasm and become accustomed to the presence of tourists, becoming increasingly apathetic to tourist development. As the number of arrivals increases and a tolerance threshold is exceeded, host communities begin to become irritated to the point of openly demonstrating feelings of hostility towards tourists. In this case, we move from mass tourism to overtourism (Hospers, 2019). In 2018 parliament gave a definition of overtourism shared by the countries of the union: "Overtourism describes the situation in which the impact of tourism, at certain times and in certain locations, exceeds physical, ecological, social, economic, psychological, and/or political capacity thresholds".

Sustainable tourism is globally recognized as the only solution against the negative impact of mass and overtourism (Hall, 2019; Sharpley, 2020). The UNWTO defines sustainable tourism as "a form of tourism that meets the needs of travellers and host regions while protecting and improving opportunities for the future". The Italian Association of Responsible Tourism (AITR) states that "sustainable tourism is implemented according to principles of social and economic justice in full respect of the environment and cultures. It recognizes the centrality of the host community and its right to be a protagonist in the sustainable and socially responsible tourism development of its territory. It works by fostering the positive interaction between the tourism industry, local communities, and travellers". The development of sustainable tourism takes into consideration several issues to work on: biodiversity and the preservation of natural heritage, the protection of local communities and the enhancement of cultures and traditions and the creation of sustainable economic actions in the field of tourism that aim to alleviate poverty. Promoting sustainable tourism means rethinking traditional tourism by considering the three aspects of sustainability, environmental, social, and economic, in an integrated and comprehensive way. There are three main actions that this new form of travel must pursue: welcoming, involving, and satisfying guests; protecting and improving the environment; and developing the local economy. Sustainable tourism, unlike mass tourism, listens to the needs of the individual traveller (Arnegger et al., 2010; Pomeroy et al., 2011) by offering him a unique experience, while minimizing the negative effects on the environment, the economy, and the host society. It aims to create new jobs and improve the local economy by enhancing traditions and typical products.

Numerous researchers have thoroughly examined and embraced the trend towards sustainability. On one side of the spectrum, the notion of sustainability has acted as a guiding light, directing some towards more ecologically and socially conscious models



and manifestations of tourism development (Ritchie and Crouch, 2000; Swarbrooke, 1999). Conversely, the concept has also encountered consistent censure for its perceived deficiencies and insufficiencies (Higgins-Desbiolles, 2010). In essence, the discourse on sustainability has effectively highlighted the imperative of striking a harmonious equilibrium between economic pursuits and environmental concerns within the realm of tourism. Nevertheless, there is a disparity between the alluring conceptual notion of sustainable tourism and its dishearteningly sluggish implementation is undeniably linked to the prevalence of irresponsible tourism practices and behaviours (Mihalic, 2013).

If the pre-COVID tourism trend were to be reconfirmed in the coming, the global situation would become even more unsustainable with emissions related to tourism transport tripling in 30 years. To be able to talk about sustainability in tourism, it is necessary, to analyse its impacts on the natural and socio-cultural environment of a destination and then adopt the necessary measures to reduce/eliminate the negative effects and enhance the positive ones through the promotion of sustainable solutions and plans. However, it is not easy to measure the impacts of tourism (Michailidou et al., 2016; Wong, 2004), so this thesis proposes a methodology that can help local governments in choosing the greenest tourism solutions to promote in their territories and tourism plans.

The idea proposed in this thesis is to integrate the calculation of the Tourist Carrying Capacity (CCT) - the maximum number of tourists who can visit, at the same time, a destination without causing negative impacts - into the Strategic Plans for Tourism (STP). While carrying capacity analysis is used to measure the environmental, social and economic impacts of tourism, tourism planning guidelines are used to define strategies for sustainable development of the sector. Tourism planning is fundamental for ensuring effective governance of tourism development. The challenge is to manage an increasingly number of tourists and a rapidly evolving market following the principles of sustainable development. If the concept of carrying capacity is quite understandable and immediate, the same cannot be said of its quantification. In the scientific literature, there are various examples of calculation, but there is no unified or predominant methodology to obtain comparable results (McCool and Lime, 2001; Simón et al., 2004; Monz, 2006; Zelenka and Kacetl, 2014). Therefore, in order to integrate the CCT within spatial planning tools, this research work defines the process necessary to compute the critical threshold beyond which a destination can no longer tolerate further pressure from the tourism industry. This process involves the assessment of several constraints and parameters used for the calculation of the CCT, based on the characteristics of the

destination and the environmental, social and economic impacts considered acceptable. Once the method of calculation has been defined by the author, the CCT is integrated into the Strategic Plans for Tourism, which, depending on the results obtained, promote measures and strategies not to exceed the optimal number of tourists. "The challenge that tourist cities have to face consists exactly in their ability to find a balance between promotion and safeguard of their (historical, cultural, architectural, territorial, environmental) resources. From a town planning point of view, this condition requires intervening through actions and policies targeted to the optimization of urban livability" (La Rocca, 2014: 278). As regards spatial planning, there is no single model to prepare a Plan for tourism a tourism is considered a marginal aspect in the field of urban planning disciplines (La Rocca, 2013). For this reason, the research project also aims to define the guidelines for a Strategic Plan for Tourism, a new plan in close dialogue with existing urban and territorial tools. This plan could be intended as an effective governance tool that minimize tourism negative impacts, and maximize the benefits for the host communities. The challenge is to manage an increasing number of tourists and a rapidly evolving market according to the principles of sustainable development. To verify the effectiveness of the proposed methodology, the research project foresees a concrete application of the CCT method and of the guidelines for a Strategic Plan for Tourism to a case study: the Cinque Terre National Park, the first tourist destination of the Liguria Region in Italy.



# 1.

## TOURISM: ONE OF THE BIGGEST INDUSTRY OF THE 21ST CENTURY

*This chapter analyses the rapid development of the tourism industry since the 1950s, reporting data and statistics. The travel and tourism industry has emerged as a cornerstone of the global economy, contributing significantly to the world's financial landscape. This dynamic sector constitutes approximately 10 percent of the worldwide GDP and sustains over 320 million job opportunities. At the end of 2019, the growth of the sector seemed to be unstoppable, however the Covid 19 pandemic marked an unexpected moment of rupture. However, in 2022, international tourism surpassed expectations, fuelled by significant pent-up demand and the easing of travel restrictions across numerous nations. The year witnessed a remarkable surge, marking a twofold increase compared to 2021. According to these figures, tourism will return to or even exceed the levels recorded in 2019 by 2024. The issue of tourism sustainability therefore remains very topical. Indeed, the tourism industry, especially the mass tourism industry, is an integral part of the system that produces CO2 emissions, contributes significantly to the consumption of resources and is responsible for the degradation of landscapes and natural habitats.*

*This chapter after analysing the different impacts of tourism and the shift in many destinations from mass tourism to overtourism investigates the concept of sustainable and responsible tourism. Sustainable tourism is an essential approach that aims to balance the economic, social, and environmental aspects of tourism, ensuring the industry's longevity and minimizing negative impacts. Addressing the challenges posed by mass tourism and overtourism is not merely an option but an imperative for cities and destinations aspiring for sustainable growth. Through strategic planning, sustainable practices, and a community-centered approach, local authorities can strike a balance between tourism and their own well-being, preserving their essence and ensuring a prosperous future for generations to come. The planning of tourism must be understood in strict connection with urban planning tools that regulate the use of the territory, as tourism is defined as the movement of people (Petroman et al, 2013), and this movement consumes land for infrastructure and services (Boavida-Portugal et al, 2016).*

## 1.1 TOURISM AT A GLANCE

Modern tourism was born in mid-19th century England when entrepreneur Thomas Cook proposed the first 'package tour' to a group of workers and their families. A day trip by train for 500 people to a small village in the countryside 11 miles from Leicester, the city of departure. Thus, we move from the 18th century grand tour -long formative journeys to get to know cities, landscapes and monuments- accessible only to the scions of the European aristocracy to an early experiment in travel for an organised group from the lower classes. This was because Cook, in addition to being a skilled entrepreneur, was a Protestant pastor committed to solving the social problems of his time and in particular the abuse of alcohol by the English working class. Travelling represented an excellent recreational/educational activity for him. Cook was able to imagine a different tourist offer, suitable for a large public, also because in those years the first means of mass transport was spreading: the train.

The evolution of tourism from then on would be inextricably linked to the evolution of means of transport. Small cars and low-cost flights led to the explosion of tourism in the 21st century. This exponential growth was also made possible by another determining factor: paid holidays. The first to have them were French army officers followed by civil servants in 1858, in 1971 the 'Bank Holiday Act' established four days' holiday for bank employees in England, Wales and Ireland, in 1908 some 66% of German employees enjoyed paid holidays (Corbin, 1996), but the real breakthrough came in 1936 when the French Popular Front guaranteed fifteen days' paid holiday for everyone. This reform was accompanied by a free train ticket to allow families to travel from their city of residence to their holiday resorts (Mongelli, 2009). Since the second post-war period more and more people began to travel thanks to the combination of paid holidays and the spread of utility cars. Tourism involves individuals willingly departing from their usual surroundings of residence to explore different environments (Camilleri, 2018). These individuals partake in diverse activities, irrespective of the proximity or distance of the destination (Hall, 2008; Holloway and Taylor, 2006; Jafari, 2002). The concept of "visitors" was officially established during the 1963 United Nations Conference on International Travel and Tourism. This term encompasses two distinct categories: Tourists, who are temporary visitors spending a minimum of 24 hours at a destination and engaging in activities like recreation, health, sports, holidays, study, or religious pursuits, fall under the leisure category. On the other hand, excursionists, which include cruise travellers, qualify as temporary visitors if their stay is less than 24 hours. However, these definitions overlook the notion of domestic tourists. In 1976, the Institute of Tourism (later renamed the Tourism Society)

introduced a broader interpretation, defining tourism as the temporary, short-term movement of individuals to destinations beyond their habitual living and working locations. Consequently, this encompasses all types of journeys, even day visits or excursions (Cooper, 2008; Holloway and Taylor, 2006).

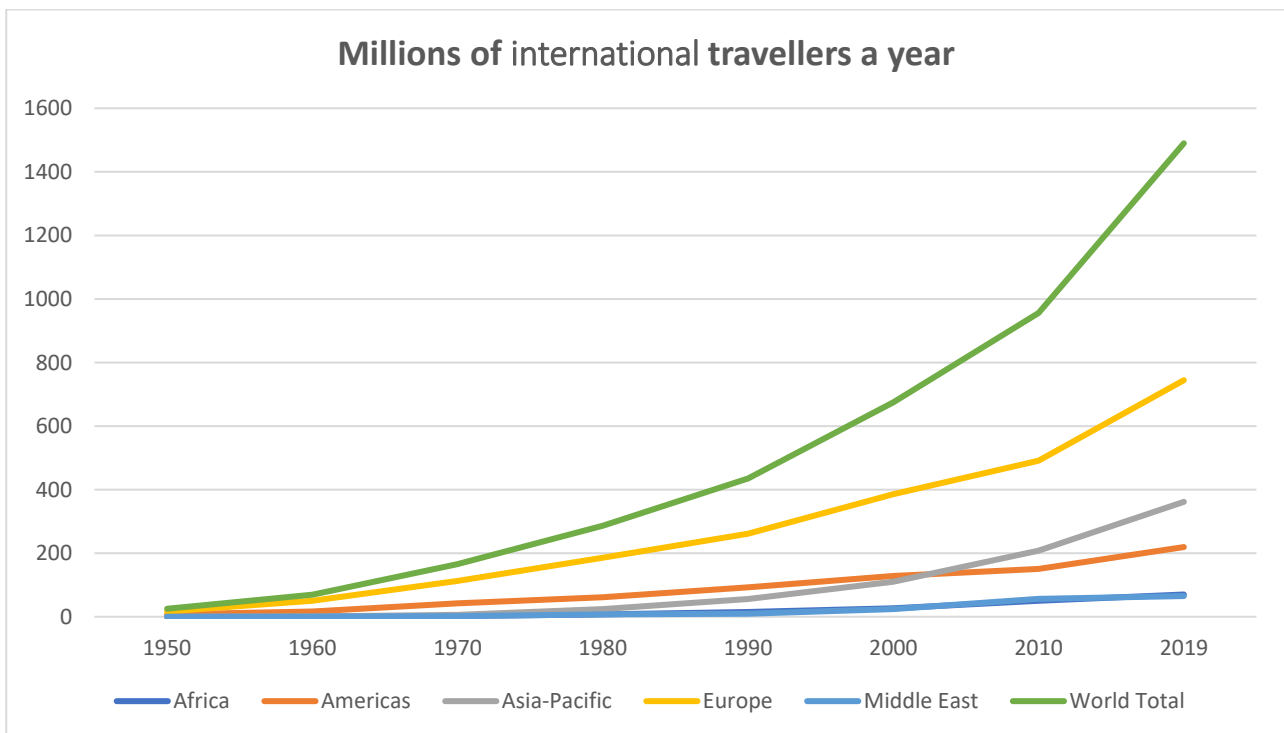
Between 1950 and 1992, international tourism grew at an annual rate of 7.2% from 25 to 687 million tourists (Manera and Morey, 2016). In the decade 1980-1990, international tourism revenues grew at an annual rate of 9.2%, well above the world growth rate as a whole (Fainstein et al. 1999). From the 1990s to 2020, growth was even more vertiginous thanks to the advent of a new means of mass transport: low-cost flights. In 1990 there were 456 million travellers per year, by 2020 the figure has more than tripled to over 1.5 billion (UNWTO). The number of arrivals between 1950 and 1970 has more than doubled every decade, while overall in the last 70 years it has multiplied by 61 (Tab. 1 and Fig. 1). In the time span between 2000 and 2010, the growth was somewhat less voracious, although it reached a good 25% due to the terrorist events of 2001 and the economic crisis of 2008.

While European countries continue to wield significant influence over the market, new destinations are steadily emerging as formidable contenders, poised to potentially shape new trends in the near future. The distribution of international tourists around the world has changed especially since the 1990s with the spread of low-cost flights (Tab. 2 and Fig. 2). In the 2000s the advent of the internet and online booking platforms revolutionized the way people planned and booked their trips. This led to a further increase in international travel. Emerging economies and developing countries also started to attract more tourists as they invested in infrastructure and promoted their cultural and natural attractions. Tourism has gradually become more and more globalised. In 1950, the top 15 destinations absorbed 97% of all tourists, in 1970 the proportion was 75% and fell to around 54% in 2015 (Glaesser et al. 2017). Since the 2000s, the Asia-Pacific region has seen the greatest growth in terms of arrivals, thanks in part to the entry of Thailand, China and Malaysia into the top 15 destinations.

Prior to the outbreak of the COVID-19 pandemic, the tourism industry stood as the largest service sector on a global scale. It played a pivotal role by offering employment to one out of every ten individuals worldwide, contributing to nearly seven percent of the total international trade volume, and commanding a significant 25 percent share of the global service exports—thus serving as a crucial generator of foreign exchange. In the year 2019, the sector's valuation exceeded an impressive US\$9 trillion, constituting a substantial 10.4 percent of the entire global Gross Domestic Product (GDP).

## International arrivals of tourists (millions)

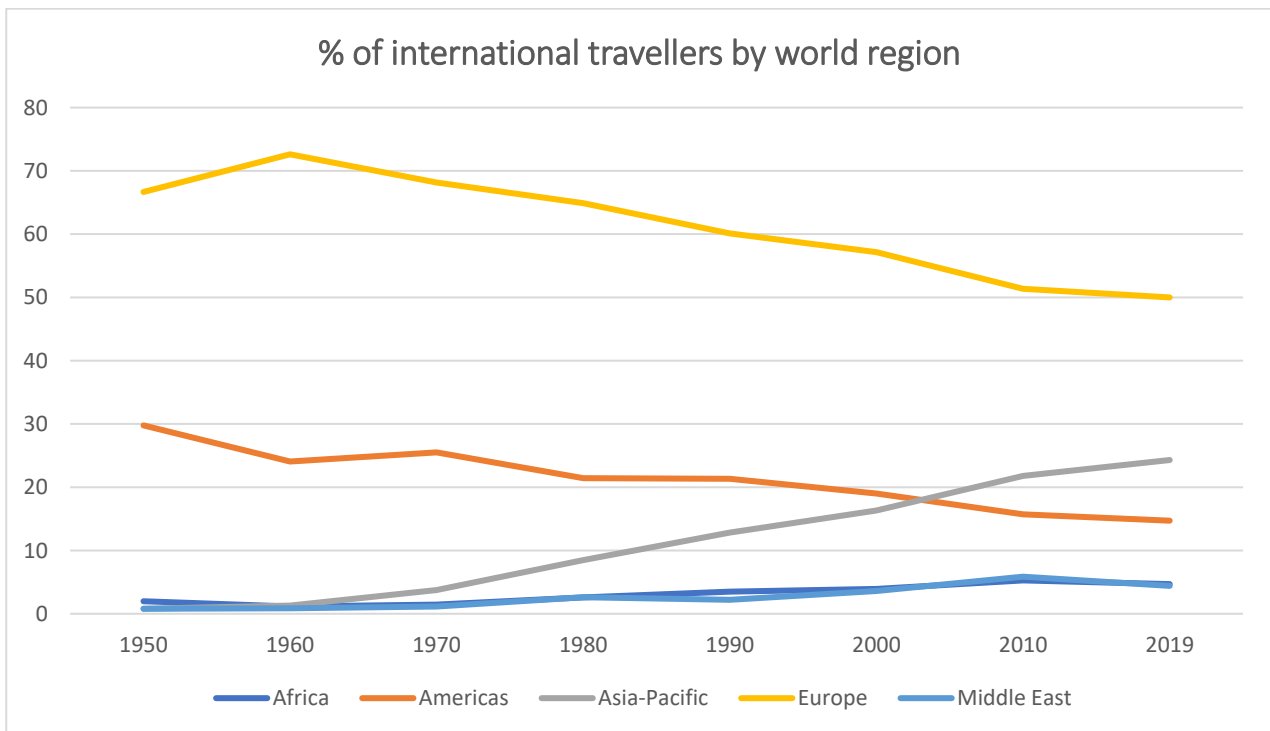
	1950	1960	1970	1980	1990	2000	2010	2019
Africa	0,5	0,8	2,4	7,4	14,8	26,5	50,4	70
Americas	7,5	16,7	42,3	61,4	92,8	128,2	150,3	219,3
Asia-Pacific	0,2	0,9	6,2	24,3	55,8	110,1	208,2	361,6
Europe	16,8	50,4	113	186	261,5	385,6	491,2	744,4
Middle East	0,2	0,6	1,9	7,5	9,6	24,1	56,1	65,1
<b>World Total</b>	<b>25,2</b>	<b>69,4</b>	<b>165,8</b>	<b>286,6</b>	<b>435</b>	<b>675</b>	<b>956</b>	<b>1490</b>



Tab. 1, Fig. 1: Millions of international travellers a year. Data processed by the author.  
Source: Reprocessed from UNWTO, 2019.

## International arrivals of tourists (percentage)

	1950	1960	1970	1980	1990	2000	2010	2019
Africa	1,98	1,15	1,45	2,58	3,5	3,93	5,27	4,69
Americas	29,77	24,06	25,51	21,42	21,33	19	15,72	14,71
Asia-Pacific	0,79	1,3	3,74	8,48	12,84	16,32	21,78	24,3
Europe	66,67	72,62	68,15	64,9	60,12	57,15	51,37	50
Middle East	0,79	0,87	1,15	2,62	2,21	3,6	5,86	4,4
<b>World Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>



Tab. 2, Fig. 2: Percentage of international travellers by world region.  
Source: Reprocessed from UNWTO, 2019.

Until the beginning of 2020, tourism had experienced continued growth and it was considered as one of the fastest growing economic sectors in the world (Birendra et al., 2021; Mathew and Kuriakose, 2017). The tourism industry generated over USD 236 billion in 2019 (UNWTO, 2019). It is one of the world's largest industries and, according to the UNWTO—United Nations World Tourism Organization—tourism, as economic sector, surpasses oil exports and food production in terms of business turnover (UNWTO, 2019). Tourism has become the world's third-largest export industry after fuels and chemicals (Rasool et al., 2021), and is the 21st century industry that generates the most cash flow (D'Eramo, 2019). Tourism, as a very substantial industry, employs millions of people, moves billions of dollars, produces and induces technological innovation, and uses brute labour. It is globally considered as a competitive and dynamic sector and deemed a key driver for socio-economic progress (Del Vecchio and Passiante, 2017; De Lucia et al., 2020). Tourism has significantly transformed into a pivotal cornerstone within the realm of international trade, concurrently emerging as a primary catalyst for economic prosperity, especially for numerous developing nations. It stands as a beacon of hope, illuminating these economies with an unparalleled source of revenue. Notably, it stands as the solitary service sector that boasts consistent trade surpluses, distinctively setting it apart from the global trade landscape.

The exponential growth of this sector, intertwined with its undeniable weight in the world economy, prompted global institutions to view tourism as an attractive resource worthy of strategic investment. This newfound perspective, however, initially shielded these institutions from fully grasping the intricate challenges and conflicts that could potentially manifest alongside the sector's advancement.

Over the ensuing decades, there emerged a growing awareness not only of the advantages stemming from the progression of the tourism industry but also of the associated expenses resulting from its operations. Given the multifaceted essence of this sector, it became evident that its effects extended beyond regional economies, influencing a myriad of activities both directly and indirectly linked to it. Consequently, tourism came to be regarded as a dual-edged resource: on one hand, as a phenomenon with the potential to bolster the socio-economic advancement of nations; and on the other, as a potential factor contributing to the erosion of local identity and environmental decline.

### 1.1.1 Covid-19 impacts on the tourism sector

In 2020, the global economic situation following the COVID-19 pandemic has changed dramatically. Travel and tourism are among the most affected sectors (Abbas et al., 2021; Folinas and Metaxas 2020) with a massive fall in international demand due to global travel restrictions including many borders fully closed and the fear of infection. As 166 countries restrict entry into their national territories, global mobility have come to a near standstill leaving tourism destinations empty because their main resource, international tourists, were effectively absent (Lapointe, 2020). UNWTO determined that international arrivals declined 74% (Fig. 3) for the whole of 2020 (United Nations, 2021; Rajapaksha, 2021). This means that international tourism returned to levels 30 years ago. The World Travel and Tourism Council (WTTC) estimates that 75 million jobs are at risk globally with a potential Travel and Tourism GDP loss of up to \$2.1 trillion this year. Tourism workers consider 2020 as a missed season but 2021 is proving to be just as complicated. The beginning of the year 2021 has been worse for most destinations, with an average global decline of 88 per cent as compared to the pre-pandemic level; although, the northern summer and autumn may see a significant improvement for some destinations, in particular for domestic and regional travel (United Nations, 2021). The indirect effects of this decline are even more devastating, as labor and capital remain unused and the lack of demand for intermediate goods and services has a negative upstream effect into many sectors (United Nations, 2021). In 2020, tourists preferred unpopular and uncrowded destinations, often in the countryside, in order to be able to continue travelling while avoiding contagion (Crossley, 2020; Miao et al., 2021). It is important to highlight these new travel trends by analyzing the development prospects of the tourism sector that characterize the COVID era and will characterize the post-COVID era in the coming years. Resilience and adaptability are two key characteristics for a revival and restart of the hospitality and tourism sector (Prayag, 2020; Peña et al., 2021). The repercussions extend far beyond mere numbers, as the abrupt collapse in demand has sent shockwaves through communities reliant on tourism. The brunt has been particularly felt by small-scale businesses, enterprises led by women, and locales heavily dependent on tourism. The strain on livelihoods and financial stability has been acutely felt, prompting widespread concern.

Moreover, the pandemic's aftershocks have had a cascading effect on government revenues. A decline in tax income has materialized, further straining public funds. This shortfall has introduced obstacles in terms of resource availability for managing



destinations and preserving sites of significance. As a result, the comprehensive fabric of destination management and site conservation has been compromised, casting a shadow over the future of these vital areas.

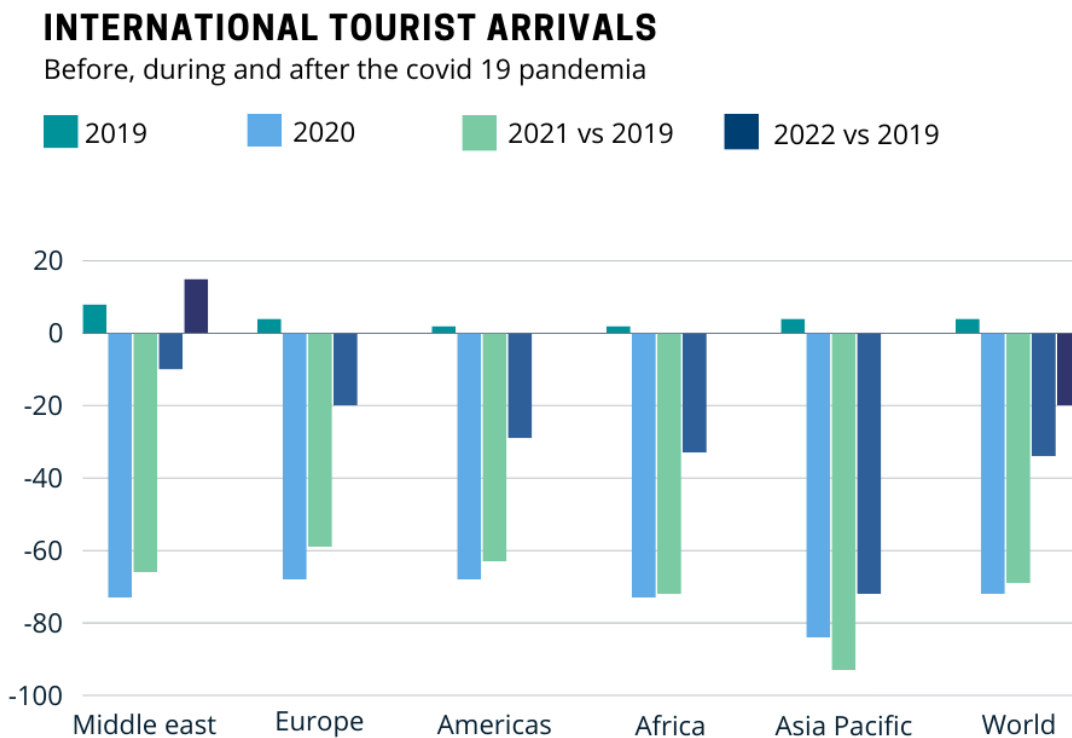


Fig. 3: Annual international arrivals (millions) pre, during and after Covid 19. Source: Reprocessed from UNWTO, 2022.

### 1.1.2 Tourism in the post covid era

The COVID-19 pandemic resulted in an unprecedented downturn for the global tourism industry, with travel restrictions, lockdowns, and health concerns causing a sharp decline in tourism activities worldwide. However, as the world begins to recover and adapt to the new normal, the tourism sector is expected to rebound and regain momentum. The recovery of the tourism sector post-COVID-19 has been a complex and gradual process, influenced by various factors including vaccination efforts, travel restrictions, economic conditions, and changes in consumer behaviour.

The latest UNWTO World Tourism Barometer, the second of this year, underscores the ongoing robust rebound of the tourism sector well into 2023. Noteworthy highlights from the report include:

- International arrivals made a remarkable progress, reaching 80% of pre-pandemic figures during the first quarter of 2023.
- The initial three months of the year witnessed an impressive surge in international tourists, with approximately 235 million individuals traveling across

borders. This reflects a noteworthy increase compared to the same period in 2022, where the numbers more than doubled.

- The resilience of the tourism industry remains evident. Recent data revision for the year 2022 reveals that over 960 million international tourists embarked on journeys, translating to the recovery of two-thirds (66%) of the pre-pandemic levels.

The recovery has not been the same globally. Also, according to the UNWTO (Fig. 4) the Middle East shines as the region with the most robust performance, standing out as the only one to surpass 2019's arrival numbers, recording a remarkable increase of 15%. Moreover, it became the first region to fully reclaim its pre-pandemic visitor count within a single quarter. Europe's recovery reached an encouraging milestone, achieving 90% of pre-pandemic levels. This resurgence can be attributed to a strong demand for travel within the region. Africa and the Americas also showcased significant progress, reaching approximately 88% and 85%, respectively, of the 2019 tourist levels. Asia and the Pacific have experienced an upward trajectory in their recovery, attaining 54% of pre-pandemic levels. This trend is projected to gain momentum, especially with the reopening of key destinations like China. In summary, the UNWTO World Tourism Barometer for 2023's second quarter reveals the ongoing and impressive revival of the global tourism sector, with various regions showcasing promising recoveries and demonstrating the industry's enduring strength.

## INTERNATIONAL TOURIST ARRIVALS

Percentage of 2019 levels recovered in 2022 (%)

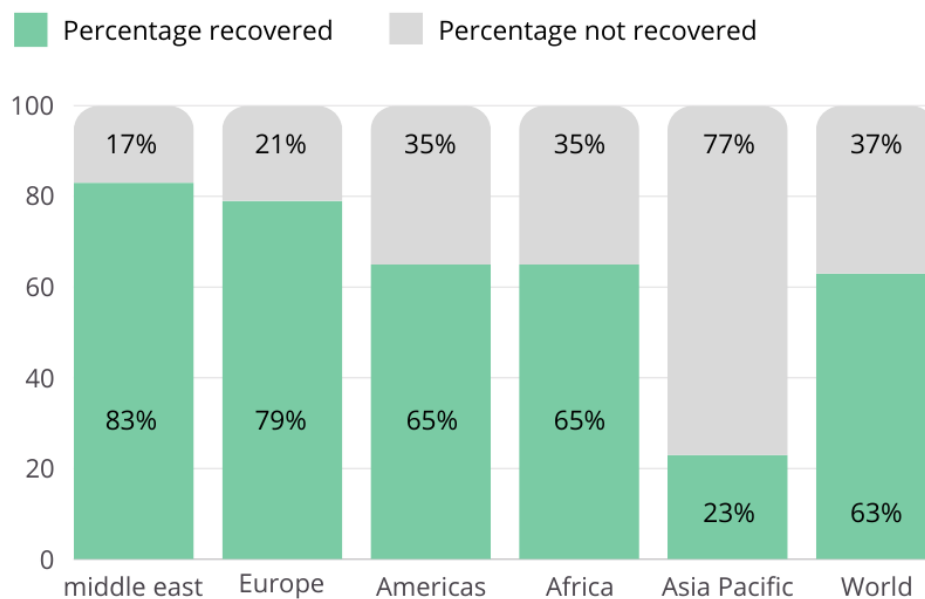


Fig. 4: Percentage of tourist arrivals 2022 vs 2019. Source: Reprocessed from UNWTO, 2022.

The collapse of tourism caused by the pandemic is forcing many destinations to rethink their economic model (Duro et al.,2021) by focusing on sustainability and innovation (Galvani et al., 2021). The data above mentioned also demonstrate a positive trend in demand for more responsible vacations. To jumpstart the industry in the post-COVID era, therefore, we must focus on this new environmental consciousness. To succeed in this, it is important that all the actors involved—tourists, residents, public administrations, and private businesses—act by pursuing common goals (Aref and Gill, 2010; Amerta et al., 2018). The sustainable destination is intended as a “host community” and the tourist or visitor is a kind of “temporary citizen” (Pirlone and Spadaro 2017). To support responsible tourism, it is also important to develop new tourism plans and solutions that take into account the tourism impacts (Ruhanen, 2008; Simão and Partidário, 2012). Because, if on the one hand, tourism can be considered as an opportunity to improve the quality of life and income in host countries, on the other hand, it can contribute to the degradation of the landscape, the growth of inequality, cultural loss, immoderate consumption of resources (energy, water, land, etc.), and increase in waste production and transport demand (Balsalobre-Lorente et al.,2020; Pigram, 2016). Tourism is globally responsible for 8% of all carbon dioxide emissions, the most important greenhouse gas causing climate change (Ghosh, 2022). However, in terms of radiative forcing, the direct measure for contribution to climate change, tourism even could have share of up to 12.5% (Hall, 2016; Eijgelaar and Peeters, 2021). Moreover, the greenhouse gas emissions of tourism are estimated to grow at a rather large rate, while globally emissions should be reduced with up to 80% by 2050 (Gössling, 2013). Finally, it has been shown that the eco-efficiency—the economic contribution per ton emissions—of tourism is rather low (Gössling et al.,2005). These data totally clash with the view, actually slightly common to many researchers in the past, according to which tourism is a low environmental impact industry (McKercher and Prideaux, 2011; Furqan et al.,2010). Now, it is a shared concept that tourist activities are strongly related to the environment (Zhong et al.,2011; Buckley, 2012). On the one hand, the natural environment itself may be considered as a major input resource to the processes of tourism industries, and, on the other hand, the development of tourism as a mass industry may severely increase its overall impact on the environment (Romeril, 1989; De Camillis et al., 2010). Despite an increasing number of publications in recent years highlighting the negative environmental and social impacts of tourism (Gössling and Peeters, 2007; Zhang and Zhang, 2018), national and local governments continue to treat the tourism industry solely from an economic point of view. Existing tourism plans are mostly territorial marketing tools and not tourism management (spatial, resource requirements, flows, etc.) (Candia et al., 2018).

The burgeoning tourism industry presents a double-edged sword—offering economic opportunities while posing significant environmental challenges. Addressing the environmental problems associated with tourism necessitates a concerted effort from governments, businesses, tourists, and local communities. Sustainable tourism initiatives, driven by responsible practices, education, and effective policies, can help strike a balance between economic growth and environmental preservation, ensuring a sustainable and harmonious coexistence with our planet.

## 1.2 FROM MASS TOURISM TO OVER TOURISM

Tourism has long been celebrated as a means of cultural exchange, economic growth, and global understanding. The ability to explore new destinations, experience diverse cultures, and create unforgettable memories has made travel an integral part of modern society. However, the rapid rise of mass tourism in recent decades has given rise to a concerning phenomenon known as overtourism. Overtourism, characterized by the negative impacts of excessive tourism on local communities and natural environments, signals a critical need to reevaluate the current trajectory of the tourism industry. This chapter explores the evolution from mass tourism to overtourism, its causes, consequences, and potential solutions to achieve a more sustainable and responsible approach to travel.

Mass tourism emerged as a consequence of increased accessibility, improved transportation, and global economic growth. Popular destinations attracted large volumes of tourists seeking leisure and cultural experiences. Auliana Poon (1993: 32, 2003) proposes that the concept of mass tourism is contingent upon the fulfilment of four key conditions: firstly, the vacation experience is 'standardized' and 'rigidly packaged'; secondly, it is produced on a large scale; thirdly, it is marketed extensively to an undifferentiated group of consumers; and finally, it is consumed in a collective manner by tourists, often disregarding local customs and cultures. It is important to note that the notion of 'mass' extends beyond mere quantity and is indicative of various qualitative dimensions. Thus, the practice of mass tourism is distinctively characterized by its commercial focus, involvement of activities like sightseeing buses or beach excursions (Cohen, 1972; Turner and Ash, 1975). In many destinations besieged by tourists the tourist mystification has begun to crack. Cities like Barcelona, Venice or Dubrovnik are struggling to cope with the impacts of mass tourism. The unmanaged flow of tourists has a negative influence on the quality of life of citizens and local culture. When many tourists are concentrated in one place, cultural conflicts and the loss of the identity of places can occur, resulting in a homogenisation of destinations and tourist

offer. Territories become stage sets and inhabitants figurants (Christin, 2017). Following Doxey's (1975) definition of the irritability index, at first the local population welcomes tourists because they recognize the positive economic effects on the area. Subsequently, the locals lose enthusiasm and become accustomed to the presence of tourists, becoming increasingly apathetic to tourist development. As the number of arrivals increases and a tolerance threshold is exceeded, host communities begin to become irritated to the point of openly demonstrating feelings of hostility towards tourists. According to Hospers (2019) in this last case, the destination is experiencing the overtourism phenomena. According to Goodwin (2017:1) a destination is subject to overtourism when "hosts or guests, locals or visitors, feel that there are too many visitors and that the quality of life in the area or the quality of the experience has deteriorated unacceptably. According to this definition not only residents but also tourists are able to realise the phenomenon. In 2018 also the UNWTO gave a definition of overtourism shared by the countries of the union: "Overtourism describes the situation in which the impact of tourism, at certain times and in certain locations, exceeds physical, ecological, social, economic, psychological, and/or political capacity thresholds". Butler creates a differentiation between overtourism and overcrowding and busy destinations, considering that overtourism "represents a situation where numbers of visitors overload the services and facilities available and become a serious inconvenience for permanent residents of such locations" (Butler, 2018: 637). Singh is probably the first scholar who makes a distinction between mass tourism and overtourism "mass tourism is a form of tourism that involves thousands of people going to the same resort often at the same time of the year, in the most popular form and the cheapest way of enjoying holidays, whereas over-tourism describes destinations where there is a feel of too many visitors and that quality of experience is at stake" (Singh, 2018: 2). According to this definition, overtourism is not linked to a particular tourist destination or seasonality but is a common feeling experienced by both tourists and residents.

Dodds and Butler (2019) present a valuable framework delineating the key contributors to overtourism, which can be categorized into three primary groups: agents of growth, technology, and power. The factors associated with 'agents of growth' primarily revolve around the escalating number of tourists, with both seasoned travellers increasing their frequency of travel and emerging groups of visitors entering the tourism landscape. The 'technology' factor plays a conspicuous role in fuelling overtourism, owing to remarkable advancements in transport and communication technologies. These innovations have streamlined booking and travel procedures, introduced more cost-effective travel options (such as low-cost carriers and cruise ships), and amplified the

promotion and image-building of destinations through social media platforms. Within the realm of 'power,' Dodds and Butler encompass the short-term focus and growth-oriented mindset of local stakeholders. Additionally, they highlight the discord among these stakeholders regarding how to effectively manage the surging influx of visitors to their respective cities.

Overtourism is a consequence not only of the private interests, but also of a growth strategy of cities by some public administrations that on the one hand promote tourism growth and on the other complain about its effects (Smith et al., 2017). The private sector has consistently advocated for ongoing expansion, particularly in the realm of continuous growth. Consequently, it is the public sector's reluctance to regulate and oversee the expansion of tourism, spanning from local to national levels, that has facilitated the widespread and unrestricted proliferation of tourism globally. This contradiction is the result of an unsustainable growth model (Gainsforth, 2020).

According to Hospers (2019), there are three problems with overtourism. The first is economic and concerns the costs of maintaining the main attractions, historical centres, museums, cathedrals... Tourists travel to a destination to see its attractions but then spend most of their money on services (accommodation, catering, shopping, etc.). In this way, destinations have problems with the management and preservation of assets that require ever greater investment. Also according to Hospers, the second problem is of a social nature. The excessive number of tourists deteriorates the quality of life of residents. In several cities, residents' resentment towards tourists has led to protests such as in Barcelona, Palma de Mallorca and Venice. Finally, the third negative impact of overtourism is physical, i.e. the damage caused by the flow of tourists on the historical and natural heritage of a destination. The case of Venice is emblematic, where the increasing number of tourists creates quite a bit of damage to the preservation of monuments and bridges and the passage of cruises has damaged the lagoon ecosystem.

Over the last decade, the debate on overtourism has led to the emergence of a new term 'tourismphobia'. According to Milano (2018: 1) tourismphobia is "a feeling of rejection towards tourism that manifests in the form of assaults to restaurants, businesses and yachts; attacks on tourist buses, bikes damaged in tourist spots, and other acts of vandalism". Many scholars agree that many instances of host-tourist conflicts stem from the perceived economic repercussions experienced by host communities (Colomb and Novy, 2017; Pinke-Sziva et al., 2019; Smith et al., 2019). These consequences include a decline in purchasing power, escalating prices, and the inflation of rental costs. Moreover, the conflicts manifest not only in economic dimensions but

also in social and cultural spheres. These encompass the exacerbation of poverty levels, erosion of local cultural identity, the onset of gentrification, and a palpable sense of urban alienation. Additional concerns involve disturbances such as noise pollution and instances of tourist incivility. The multifaceted nature of these issues underscores the intricate interplay between economic, social, and cultural factors in shaping host-tourist dynamics.

While some authors argue that terms like overtourism and tourismphobia have become somewhat clichéd (Koens et al., 2018), it cannot be denied that these concepts have significantly enriched the discourse within the field of tourism studies. The discourse revolves around a crucial examination of the delicate balance between the rights of tourists to travel and the rights of residents, thereby illuminating the pervasive disparities between the expansion of tourism and local perceptions of its development (Peters et al., 2018; Perkumienė and Pranskūnienė, 2019). The emergence of overtourism and tourismphobia as focal points in academic discussions signals a recognition of the multifaceted challenges inherent in contemporary tourism. These terms serve as entry points into an exploration of the intricate dynamics that underlie the relationship between tourists and local communities. By scrutinizing the impact of tourism growth on residents' perspectives, scholars are better equipped to identify and comprehend the nuances of this complex interplay. Peeters et al. (2018) and Perkumienė and Pranskūnienė (2019) contribute significantly to this discourse by delving into the nuanced dimensions of how residents perceive and respond to tourism development. Their work provides valuable insights into the factors contributing to the existing imbalances and tensions. The discussion prompted by these scholars underscores the need for a comprehensive and sustainable approach to tourism management that respects the rights and concerns of both tourists and residents alike.

In essence, while the terminology might be subject to criticism for its frequency of use, the concepts of overtourism and tourismphobia have undeniably catalysed an important conversation that goes beyond mere semantics. They serve as lenses through which we can critically examine the evolving landscape of tourism and work towards fostering a more harmonious coexistence between the tourism industry and the communities it impacts. While tourism has the potential to enrich both travellers and local communities, it must be managed responsibly to prevent irreversible harm. Only by acknowledging the causes and consequences of overtourism and implementing targeted solutions, the tourism industry can transition towards a future where economic growth, cultural preservation, and environmental conservation coexist harmoniously.



## 1.3 TOURISM IMPACTS

If the pre-COVID tourism trend were to be reconfirmed in the coming years (WTO forecasts that we will reach the same levels as in 2019 by 2023) (United Nations, 2021), the global situation would become even more unsustainable with emissions related to tourism transport tripling in 30 years. To be able to talk about sustainability in tourism, it is necessary, to analyse its impacts on the natural and socio-cultural environment of a destination and then adopt the necessary measures to reduce/eliminate the negative effects and enhance the positive ones through the promotion of sustainable solutions. However, it is not easy to measure the impacts of tourism (Michailidou et al 2016; Wong, 2004). Initial investigations into the influence of tourism on destinations predominantly concentrated on economic impacts. This emphasis was driven not only by the ease of quantifying and measuring economic impacts but also by a prevailing sense of optimism that these analyses would affirm tourism's overall positive economic contribution to host destinations (Archer et al., 2012). However, the inherent nature of tourism draws it to distinctive and delicate environments and societies. Consequently, it became evident that in certain instances, the economic advantages of tourism might be counterbalanced by negative environmental and social repercussions that were previously overlooked and not adequately measured.

### 1.3.1 Economic Impacts

Extensive documentation exists on the impacts of tourism (Liper, 1979; Mathieson and Wall, 1982; Eadington and Redman, 1991; Archer and Fletcher, 1996; Tribe, 1999; Vellas, 2011; Frechtling, 2013; Kumar et al., 2015). According to these studies tourism can have significant economic impacts on both local and national levels. These impacts can be both positive and negative, and they can affect various sectors of the economy. On the positive side, tourism serves as a catalyst for bolstering budget revenues, fostering production expansion, stimulating investments, and enhancing the overall welfare of the population. Conversely, the negative impacts of tourism encompass inflationary pressures, financial leakage, escalating infrastructure costs, and the risk of economic dependence.

The realm of direct employment within the tourism sector encompasses a diverse array of roles, spanning hotels, transport operators, travel agencies, tourist attractions, government departments, and tour operators, as delineated by Lieper (1979). However, the impact of tourism on employment extends beyond these explicit domains, permeating into indirect sectors like construction, banking, design, and transport companies. As outlined in reports by Mathieson and Wall (1982) and Kumar and Hussain (2015), the far-reaching effects of tourism development extend beyond mere

revenue generation and job creation. Tourism expenditure serves as a catalyst for the host country's economic growth through a threefold mechanism: the direct-multiplier effect, the indirect-multiplier effect, and the induced-multiplier effect (Khan et al.,1995; Harcombe, 1999; Hernández Martín, 2004). Firstly, the direct-multiplier effect stems from the immediate expenditures made by visiting tourists. This includes expenses such as accommodation, transportation, and recreational activities. These direct contributions inject capital directly into the local economy, fostering growth and job creation in sectors directly linked to the tourism industry. Secondly, the indirect-multiplier effect unfolds as a result of the money spent by those who directly benefit from the influx of tourists. Local businesses and service providers, ranging from suppliers of raw materials to hospitality staff, experience increased demand for their goods and services. This amplifies the economic impact by creating a ripple effect, generating additional income streams throughout the community. Finally, the induced-multiplier effect manifests through the subsequent purchases of goods and services by individuals who have benefited from both the direct and indirect effects. As the economic stimulation permeates through various sectors, residents and businesses alike engage in further transactions, leading to a sustained cycle of economic activity. This effect extends beyond the initial influx of tourist expenditures, contributing to the long-term economic resilience of the host country. In essence, tourism expenditure functions as a dynamic force propelling economic prosperity by not only infusing immediate capital but also fostering a network of interrelated economic activities that benefit a broad spectrum of businesses and individuals within the host country (Mathouraparsad and Maurin, 2017).

Below are the main positive economic impacts of tourism and their references in the scientific literature.

- Job creation: Tourism often leads to the creation of a wide range of jobs, including those in the hospitality industry (hotels, restaurants, bars), transportation, entertainment, and various support services. This can help reduce unemployment rates and provide income opportunities for local residents (Archer, 1995; Khan, Phang, and Toh,1995 ; Ntibanyurwa, 2006; Hipsher, 2017). Tourism is a labor-intensive sector. Increased production typically accompanies a rise in employment, which proves advantageous for economies aiming to reduce their unemployment rates. However, it is essential to note that tourism can also impact the job market by causing wage shocks in the service sector and fostering mobility across various sectors (UN, 2001). Tourism tends to thrive more effectively in countries grappling with unemployment rather than those

experiencing full employment, primarily due to its labor-intensive nature. In developing nations, the expansion of tourism can lead to increased employment opportunities, fostering economic growth. Conversely, in developed countries, the growth of tourism may redistribute labor from other sectors, potentially diminishing their overall performance (Ntibanyurwa, 2006).

- **Income generation:** Tourism can bring in revenue to a destination through spending by tourists on accommodation, food, transportation, attractions, and souvenirs. This infusion of money can help stimulate the local economy and contribute to the overall income of residents and businesses (Mitchell and Ashley, 2006; Mathouraparsad and Maurin, 2017). Tourism receipts have the potential to significantly enhance a country's economic growth by exerting a favourable impact on the overall economy (Marin, 1992). Ghali (1976) and Lanza along with Pigliaru (2000) pioneered the examination of the empirical connection between tourism and economic growth. Subsequently, Balaguer and Cantavella-Jordà (2002) were trailblazers in scrutinizing the hypothesis of tourism-led growth. Furthermore, tourism appears to be particularly proficient in creating employment and generating income, especially in less developed and often peripheral regions of a country where alternative opportunities for development are scarce (Archer et al., 2012). In this way, it can be argued that tourism helps to reduce inequalities between the centre and the periphery, between marginal areas and the city (De Santana Ribeiro et al., 2017; Khoshkhoo et al., 2017). Tourism development holds significant potential for poverty reduction in numerous countries. However, governments often overlook the importance of tourism, failing to establish a direct link with economic growth (Croes and Vanegas, 2008).
- **Business Opportunities:** The demand from tourists can create opportunities for new businesses and services to emerge. Entrepreneurs may start new ventures to cater to the needs and preferences of tourists, leading to a diversification of the local economy (Ashley et al, 2007; Tajeddini et al., 2017; Battour et al., 2022) . Public sector contributions serve as catalysts, fostering entrepreneurial activity, stimulating demand for products and services, and, when required, establishing specialized factors of production (Pickvance, 1990). Consequently, local authorities play a crucial role in actively promoting and advancing tourism within their respective regions.

From an economic standpoint, tourism has traditionally been perceived as a low-risk strategy to boost local revenues and stimulate economic activity, as highlighted by Wong (1996). However, an alternative perspective presented by some scholars suggests that the apparent positive effects on municipal incomes may reach a saturation point. In essence, the debate on the economic impact of tourism extends beyond the immediate financial gains and necessitates a comprehensive evaluation of both short-term benefits and long-term sustainability. As destinations strive to capitalize on tourism, there is a call for strategic planning and prudent resource management to ensure that the economic advantages persist over time, without causing undue strain on local resources and infrastructure. With regard to the negative economic aspects of tourism development, the following list includes the main aspects found in the literature.

- **Precarious Employment:** Many tourist destinations experience peaks and troughs in visitor numbers based on seasons. This leads to a demand for temporary or seasonal workers during peak times, creating uncertainty for workers who may not have consistent employment throughout the year (Mooney, 2018). This means that in tourism industry many jobs are part-time, temporary, or casual in nature (Lee et al., 2015; Robinson et al., 2019). This can result in workers not having access to the same benefits as full-time employees, such as health insurance, retirement plans, or job security. In some cases, tourism-related jobs, especially those in entry-level positions, may offer low wages. This can lead to financial instability for workers, making it challenging to meet basic needs and plan for the future. Some tourism-related jobs may be part of the informal economy, meaning that they are not regulated by labor laws and lack the protection and benefits that come with formal employment. In the global tourism industry, there is often a trend toward outsourcing certain services. This can lead to a situation where workers are employed by third-party contractors, making it harder for them to negotiate for better wages and working conditions. Despite the passage of time, there appears to be little transformation in the core aspects of employment within the tourism sector (Baum, 2015). The industry exhibits a predominantly unfavorable attitude towards the efforts of the trade union movement (Bergene et al., 2015), and workplace environments persistently resist alignment with legal expectations, as well as broader industrial and community ethical standards and anticipations, respectively (Poulston, 2008).

- **Dependency on Tourism:** Overreliance on tourism can make an economy vulnerable to fluctuations in the industry (Kumar et al., 2015). Economic downturns or crises can result in a significant drop in tourist arrivals, leading to economic hardships for local businesses and communities (Henderson, 2007; Hall, 2010 ; Khalid et al., 2020). Natural disasters can also create major problems for all those economies overly tied to the tourism sector..Regions that possess stronger economies before experiencing natural disasters tend to incur lower losses compared to regions with weaker economic profiles. It is imperative to enhance efforts in improving regional economic conditions preemptively to effectively mitigate disaster losses (Kim and Marcouiller, 2015).
- **Leakage:** Leakage occurs when a significant portion of tourism revenue is redirected out of the local economy to foreign-owned companies, such as multinational hotel chains. This can limit the actual economic benefit that stays within the community (Supradist, 2004; Chirenje et al., 2013; Chaitanya and Swain, 2023).
- **Environmental Costs:** Intensive tourism activities can lead to environmental degradation, including pollution, overuse of natural resources, and damage to ecosystems (Huybers and Bennett, (2003). These costs also affect waste management, which increases significantly in tourist destinations (Voltes-Dorta et al., 2014; Caponi, 2022). The costs associated with mitigating and addressing these environmental impacts can strain local economies. Different researches have illuminated various negative externalities resulting from the influx of tourists, including the over-exploitation of natural resources (Capó et al., 2007; Holzner, 2005; Sun and Pratt 2014).

Overall, the economic impacts of tourism are complex and multifaceted. To maximize the positive impacts and mitigate the negative ones, destinations often need to carefully plan and manage their tourism development strategies, considering factors such as sustainability, diversification, and community engagement. By understanding and addressing the economic dynamics, it becomes possible to harness the positive aspects of tourism while strategically minimizing its drawbacks, thereby fostering sustainable economic development.

### 1.3.2 Social Impacts

The prosperous growth of tourism depends on maintaining a balanced and harmonious relationship among tourists, the local communities and the businesses offering tourism services (Amerta et al., 2018). Tourism can have significant social impacts on both the host communities and the tourists themselves. These impacts can be both positive and negative, and they can vary depending on the type and scale of tourism, as well as the level of community engagement and management. Tourism exerts a significant influence on the sociocultural fabric of local communities, permeating various aspects of daily life such as habits, customs, social dynamics, and deeply ingrained beliefs and values. This impact is most pronounced in the interactions between the indigenous population and tourists, giving rise to a spectrum of outcomes, ranging from the emergence of novel social and cultural opportunities to the potential for adverse effects, including distress, pressure, and congestion (García et al., 2015). Recognizing the social consequences of tourism on communities is crucial at every level. This awareness enables proactive measures to minimize the risk of community resistance towards tourists and the development of tourism (Deery et al., 2011).

The investigation into residents' perspectives on the repercussions of tourism has been a topic of scholarly inquiry for over five decades. Despite the extensive body of research, ongoing debates persist with respect to definitions, performance variables for measurement, and employed methodologies. Jafari (1986) highlighted the shift in research focus during the sixties, emphasizing the positive impacts of tourism, transitioning to an exploration of negative aspects in the seventies, and achieving a more balanced approach in the eighties. Notably, it was in the seventies that residents gained increased attention (Vargas et al., 2007), marking the initiation of studies concentrating specifically on residents' experiences and perceptions. Numerous studies have delineated the effects in two distinct dimensions: positive and negative. In other words, residents have noted that tourism brings about both advantages and drawbacks within their tourism zone (García-Buades et al., 2015). Johnson et al. (1994) observed that residents initially have high expectations for tourism development, leading to an increased predisposition to accept tourists. However, beyond a certain threshold level, residents' attitudes gradually become less favourable over time. Diedrich and García-Buades also successfully delved into the exploration of utilizing local perceptions of tourism as indicators of destination decline. In a broader context, residents demonstrate an ability to discern both positive and negative consequences of the tourism industry. Diedrich and García-Buades applied a tourism area life cycle derived from social science literature to Belizean communities, shedding light on the dynamics influencing the local perspective on tourism. Implementing widespread education and awareness campaigns, as suggested by Andereck et al. (2005), could serve as effective tools to enhance the willingness of residents to accommodate a

greater number of tourists. Generally, the positive aspects on local communities are related to the economic value linked to the tourism industry that involves the creation of new jobs (Liu et al., 1987; Lindberg and Johnson, 1997; Andriotis and Vaughan, 2003; Andereck et al., 2005; Diedrich and García, 2009; Andereck and Nyaupane, 2011; Sofronov, 2018) and opportunities for local businesses (Perdue et al., 1990; Gursoy, et al., 2002; Mitchell and Ashley, 2006). These economic aspects have an important influence on the predisposition of residents towards tourism development in their area (Lindberg and Johnson, 1997). Residents who lack economic ties to tourism in terms of employment tend to display less positive, neutral, or occasionally negative attitudes (Haralambopoulos and Pizam, 1996; Kuvan and Akan, 2005). Those who do not reap economic advantages from tourism are more inclined to express criticism regarding its adverse impacts. Teye et al. (2002) cast doubt on the notion of a direct correlation between dependence on tourism and a positive attitude toward it.

In order to better systematise the contents of the literature, the following are the main positive aspects on local communities related to the development of tourism in a destination.

- **Income Generation and Employment:** Tourism can create job opportunities in various sectors, such as hospitality, transportation, and handicrafts, thereby reducing unemployment and improving local economies (Haddock-Fraser and Hampton, 2012; Daldeniz and Hampton, 2013). Numerous scholars have explored the intricate relationship between local economies and the development of tourism (Scheyvens, 2007; Hummel and van der Duim, 2011; Truong, 2013), underscoring the potential to alleviate poverty through well-crafted policies. Hall (1987) and Booth (1990) directed their attention toward the capacity of tourism to catalyze economic growth, particularly during the shift from a manufacturing to a service-based economy. In a broader context, the global surge in the tourism industry has not only propelled the economies of developed nations but has also proven beneficial for developing countries. Moreover, specific regions within these developing countries stand to gain from strategic investments in the tourism sector. The dynamics of spatial spillover and spatial heterogeneity between neighboring regions, along with robust inter-sectoral linkages, emerge as pivotal factors driving regional tourism growth (Yang and Fik, 2014; Thomas-Francois et al., 2017).



- **Increased Standard of Living:** The revenue generated from tourism can contribute to improved infrastructure, education, and healthcare in a destination, leading to an overall increase in the standard of living. This includes enhancements in road and rail networks, airport facilities, and upgrades in telecommunications, as well as utilities such as water and power supply. Consequently, local communities stand to gain from these advancements, reaping the benefits of improved facilities that are not only tailored for tourists but also enhance the overall quality of life for residents. The symbiotic relationship between tourism development and infrastructure enhancements underscores the potential for sustainable growth and positive socio-economic impacts within destination areas. The relationship between tourism and local infrastructure development is analyzed in depth by the following authors (Belisle and Hoy, 1980; Sheldon and Var, 1984; Korca, 1996; Andereck and Vogt, 2000; Mason and Cheyne, 2000; Saveriades, 2000; Yoon et al., 2001; Andereck et al., 2005).
- **Cultural Exchange and Understanding:** Tourism can facilitate interactions between people from different cultures, leading to greater cross-cultural understanding, tolerance, and appreciation (Korca, 1996; Besculides et al., 2002; Dyer et al., 2007; Moyle et al., 2010). This can help reduce stereotypes and promote global harmony (Çelik, 2019). Tourism can also stimulate and produce new cultural activities/events (Korca, 1996; Liu and Var, 1986; Liu et al., 1987; Brunt and Courtney, 1999; Andereck and Vogt, 2000; Yoon et al., 2001).
- **Preservation of historical and natural environment:** Tourism serves as a catalyst for heightened interest in the preservation and upkeep of historical buildings, archaeological sites (Liu et al., 1987; Akis et al., 1996; Korca, 1996; Yoon et al., 2001; Andereck et al., 2005; Oviedo et al., 2008), and natural resources (Akis et al., 1996; Andereck et al., 2005; Andereck and Nyaupane, 2011). The influx of visitors not only brings attention to the cultural and ecological significance of these sites but also generates support for their sustained protection. Furthermore, tourism's impact extends beyond conservation efforts. It contributes to the enhancement of the aesthetic appeal of cities and their environs (Korca, 1996; Andereck et al., 2005; Oviedo et al., 2008). The economic stimulation from tourism often translates into investments in infrastructure, landscaping, and overall urban development, resulting in a more visually pleasing and well-maintained urban landscape.

- Preservation of Traditions: The demand for authentic experiences can encourage communities to preserve their traditional customs, arts, and crafts, as these elements become attractive to tourists (Andereck et al., 2005; Oviedo et al., 2008). Positive interactions with tourists can enhance local residents' sense of pride in their culture, history, and way of life, contributing to a stronger community identity (Yoon et al., 2001; Besculides et al., 2002; Andereck et al., 2005).
- Education and Awareness: Tourism can promote educational opportunities, as locals may learn new languages, develop skills for the hospitality industry, and gain insights into global affairs (Ashley et al., 2007; Moscardo, 2008).

While the advantages of tourism are undoubtedly significant, it is crucial to acknowledge the disadvantages. The growth of tourism has a multifaceted impact on destination environments, particularly affecting the local communities who serve as hosts to tourists (Wall and Mathieson, 2006). This dynamic sets the stage for what can be termed a 'development dilemma' (Telfer and Sharpley, 2008) in destination communities. Indeed local communities find themselves navigating a delicate trade-off between the perceived benefits they anticipate from tourism and the potential negative social and environmental repercussions associated with its development. As Andriotis and Vaughan (2003) highlight, the balance in residents' perspectives regarding the costs and benefits of tourism plays a pivotal role in determining tourist satisfaction and is therefore integral to the overall success of the tourism industry. Striking the right balance becomes a formidable challenge for destination communities as they grapple with the complexities of ensuring economic gains from tourism while simultaneously mitigating adverse effects on their social fabric and natural surroundings. This intricate interplay underscores the importance of comprehensive and sustainable tourism planning that not only maximizes positive outcomes but also minimizes the undesirable consequences of tourism development. In essence, achieving a harmonious coexistence between tourism and destination communities requires a thoughtful and strategic approach that goes beyond short-term gains to ensure the long-term well-being of both the industry and its local hosts.

With regard to the negative social aspects of tourism development, the following list includes the main aspects found in the literature. These effects can vary depending on factors such as the scale of tourism, the type of tourists, and the local community's preparedness to handle the influx of visitors.

- **Inflation:** Rapid growth in the tourism sector can drive up prices for goods and services, which can impact the cost of living for local residents. This phenomenon, known as "tourism-driven inflation," can make it challenging for locals to afford basic necessities (Copeland, 1991; Sheng and Tsui, 2009; Sheng, and Zhao, 2016). Residents acknowledge that tourism contributes to an escalation in the cost of living, as indicated by various studies (Liu and Var, 1986; Saveriades, 2000; McGehee and Andereck, 2004; Bujosa and Rosselló, 2007). This is manifested through heightened prices of goods and services (Korca, 1996; Aguiló et al., 2004; Tkalec and Vizek, 2016) leading to an overall improvement in living standards but accompanied by an increase in inflation (Akis et al., 1996; Shaari et al. 2018; Huseynli, 2022). Consequently, there is an upward trend in property values and housing prices (Var et al., 1985; Perdue et al., 1990; Korca, 1996; Aguiló et al., 2004; Biagi et al., 2016), including land value (Korca, 1996; Saveriades, 2000; Aguiló et al., 2004; Cocola-Gant, 2018). Regrettably, this economic shift renders a significant portion of the local population incapable of realizing their dream of homeownership (Antón and González, 2008; Cocola-Gant, 2018).
- **Cultural Erosion and Social Disruption:** Over-commercialization and misrepresentation of local cultures can lead to the erosion of traditional customs, languages, and practices, as communities modify their lifestyles to cater to tourist expectations (Mansperger, 1995; Yolal, 2016; Sigler and Wachsmuth, 2020). Rapid tourism development can disrupt local social structures, leading to increased crime rates, strained social services, and cultural conflicts. In addition, tourism activity can invade local residents' privacy, making them feel like they are living in a "showcase" for visitors (Blanco-Romero et al., 2018). Finally, tourists' appropriation of local cultures for their enjoyment, without understanding or respecting the significance of cultural practices, can lead to misunderstandings and resentment (Gertner, 2019).
- **Dependency on Tourism:** When a community becomes heavily reliant on tourism as its main source of income, it can be vulnerable to economic downturns, natural disasters, or shifts in tourism trends (Henderson, 2007; Hall, 2010 ; Khalid, Okafor and Shafiullah, 2020). Hampton et al. (2018) emphasized that the expansion of the labor market due to the tourism sector could potentially increase susceptibility, unpredictability, and precariousness, particularly for ethnic minorities. Moreover, as mentioned in the previous paragraph, in the

tourism industry many jobs are part-time, temporary, or casual in nature (Lee et al., 2015; Robinson et al., 2019).

- **Environmental Degradation:** While primarily an environmental concern, environmental degradation resulting from tourism can indirectly impact local communities by affecting their quality of life and access to natural resources. Inhabitants are acutely aware that the tourism industry serves as a significant contributor to environmental degradation, as evidenced by studies conducted by Johnson et al. (1994) and Yoon et al. (2001), which highlight the associated issues of pollution. Moreover, scholars such as Andereck et al. (2005), Brunt and Courtney (1999), Lankford (1994), Liu et al. (1987), McGehee and Andereck (2004), and Snaith and Haley (1999) have extensively documented the adverse impact of tourism on the generation of waste and rubbish. This growing body of research underscores the pressing need for sustainable practices within the tourism sector to mitigate these environmental concerns and promote responsible tourism.
- **Congestion:** One of the problems highlighted by various researches concerns congestion and crowding caused by the increase in the number of tourists, which makes it increasingly difficult for residents to get around (Liu et al., 1987; Perdue et al., 1990; Andereck et al., 2005) and to be able to access different services. Excessive crowding obviously leads to a decrease in the quality of life of the inhabitants ( Sánchez-Fernández et al., 2018; Biagi et al., 2020) who are unable to find parking (Lindberg and Johnson, 1997; Sheldon and Abenoja, 2001), to get on public transport (Le-Klaehn, et al., 2014; Sánchez-Fernández et al., 2018) and in some cases even to walk in certain areas (Sánchez-Fernández et al., 2018).
- **Inequitable Distribution of Benefits:** The benefits of tourism may not be equally distributed among community members, leading to disparities in income and wealth. Moreover, it is worth noting that even tourism endeavors with a cultural or ecological focus often result in the predominant share of revenues being retained and repatriated, leading to only incremental advancements in poverty alleviation (Manuel-Navarrete, 2016). To illustrate, an examination employing value-chain analysis across 12 destinations spanning Asia and Africa revealed that the proportion of total tourism expenditure contributing to the income of the impoverished ranged merely between 5 and 30% (Coles and Mitchell 2009).

This underscores the limited impact of such tourism initiatives on significantly ameliorating poverty in these regions.

- **Rise in crime:** Research suggests that tourism is linked to an increase in delinquency and vandalism (Haralambopoulos and Pizam, 1996; Dogan, 1989, as cited in Andereck et al., 2005). Furthermore, there is evidence indicating a correlation between tourism and serious crimes such as theft (Belisle and Hoy, 1980), which is supported by studies from Andereck et al. (2005), Brunt and Courtney (1999), Diedrich and García (2009), Haralambopoulos and Pizam (1996), King et al. (1993), Lankford (1994), Lindberg and Johnson (1997), Long et al. (1990), and Milman and Pizam (1988). Additionally, the impact of tourism extends to social issues such as increased drug use, with research pointing to associations between tourism and elevated levels of drug consumption (Belisle and Hoy, 1980; Diedrich and García, 2009; Haralambopoulos and Pizam, 1996; King et al., 1993; Saveriades, 2000). Similarly, the consumption of alcohol is identified as another factor that may escalate due to tourism (King et al., 1993; Milman and Pizam, 1988). Ultimately, the social fabric can be influenced by the potential rise of prostitution associated with tourism (Liu and Var, 1986; Sheldon and Abenoja, 2001). This intricate effect emphasizes the need to explore the wider social consequences of tourism, extending beyond its economic contributions.
- **Loss of Local Control:** in some cases, local communities may lose control over their resources and decision-making processes as outside investors and tourism companies become dominant (Fallon, 2011; Jordan et al., 2013).

In navigating the intricate relationship between tourism and sociocultural dynamics, it becomes crucial to strike a balance that maximizes the positive contributions of tourism while mitigating potential adverse effects. This entails thoughtful and sustainable tourism practices that respect and engage with the local community, promoting mutual understanding and cultural appreciation. By fostering responsible tourism, it becomes possible to harness the benefits of cultural exchange without compromising the integrity of the host community's identity and social fabric. To maximize the positive social impacts and minimize the negative ones, sustainable tourism practices are crucial. This involves responsible planning, community involvement, cultural sensitivity, and a focus on long-term benefits for both tourists and host communities.

### 1.3.3 Environmental Impacts

Tourism plays a significant role on a global scale in contributing to greenhouse gas emissions, accounting for a substantial portion ranging from 8% to 11% of the total global emissions of greenhouse gases. In concrete terms, this equates to a substantial 3.9 to 5.4 billion metric tonnes of CO<sub>2</sub> emissions out of the overall 48.9 billion metric tonnes of CO<sub>2</sub> equivalents recorded in 2019. This environmental impact stems from various sources within the tourism industry, including transportation, which constitutes 49% of the total, consumption of goods and services encompassing food and accommodation, comprising 30%, and agricultural activities, which contribute 8% (Fig. 5) (Gössling, 2013; Lenzen, 2018). Therefore, investigating the environmental impact of tourism consumption holds broad significance for policymakers in the tourism sector, as highlighted by Jones and Munday in 2007.

It's noteworthy that this 8% share of carbon dioxide emissions makes the tourism sector an even more substantial polluter compared to the construction sector. Furthermore, when assessed in terms of radiative forcing, a direct measure of the contribution to climate change, tourism's impact might extend to a share as high as 12.5% (Hall, 2016; Eijgelaar and Peeters, 2014).

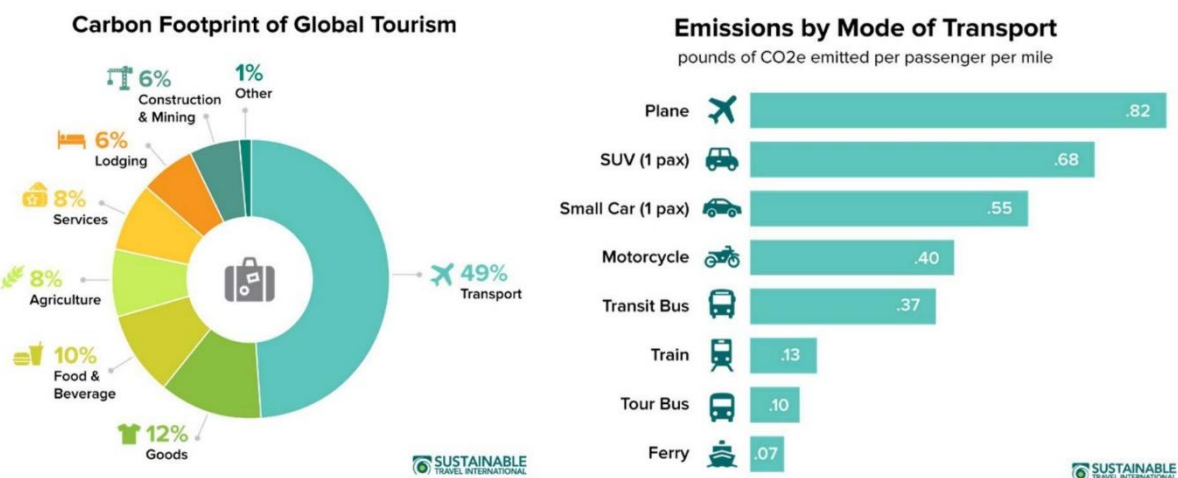


Fig. 5: The different activities that contribute to tourism's total carbon footprint. Source: Lenzen, 2018.

Predictions indicate a concerning trajectory for the future, as CO<sub>2</sub> emissions attributed to tourism-related transport are anticipated to surge to nearly 2 million metric tonnes by the year 2030. This marks a considerable 25% increase from the levels observed in 2016. In parallel, the number of international and domestic arrivals is projected to experience a substantial upswing, climbing from 20 billion to an estimated 37 billion, according to data provided by the UNWTO.

Additionally, it's crucial to highlight that transport-related greenhouse gas emissions originating from the tourism sector constitute about 18% of the overall transport emissions and contribute to 3.7% of the global human-made greenhouse gas emissions (Gössling, 2013). In the context of this, the cruise industry emerges as a contributor, responsible for emitting around 0.7% of the total emissions attributed to tourism (Fig.5). This amounts to roughly 27 million metric tonnes of CO<sub>2</sub>. This data has been derived from the World Travel & Tourism Council's analysis of 2019 data sourced from the top four major cruise lines, which collectively account for 60% of the global passenger volume. For the remaining 40%, an estimate has been calculated, considering that a substantial number of cruise lines do not disclose their emission data (Lenzen, 2018).

Among various modes of transportation, air travel undeniably stands out as the primary contributor to greenhouse gas production. Particularly concerning are certain islands that heavily rely on international tourism, like the Maldives and the Seychelles. For them, international tourism can represent anywhere from 30% to a striking 80% of their national emissions (Lenzen, 2018). As the popularity of international travel to exotic destinations continues to rise and the demand for luxury services simultaneously surges, the environmental repercussions of the tourism industry are exacerbated. An alarming aspect of this situation is that a significant portion of global tourism-related emissions are presently not subject to binding reduction targets. This is largely due to the exclusion of emissions from international aviation and shipping from the provisions of the Paris Agreement. In closing, it's been demonstrated that the eco-efficiency of the tourism sector—measured by the economic contribution per ton of emissions—is relatively low (Gössling et al. 2005). This underscores the imperative for responsible and sustainable practices within the tourism industry to mitigate its substantial impact on greenhouse gas emissions and the overall environment.

The prevailing perception, once commonly embraced by numerous researchers (Croce, 2018; De Lucia et al. 2020; OECD, 2020), that positioned tourism as a benign force with minimal environmental repercussions, now stands in stark contrast to the emerging consensus. Contemporary understanding underscores the robust interconnection between tourist activities and the environment (Lew et al., 2020; Folinas and Metaxas, 2020; Abbas et al., 2021). This transformation is underpinned by a dual perspective: on one facet, the natural environment takes centre stage as a pivotal resource for the mechanisms propelling the tourism sector; conversely, the unfurling proliferation of tourism into a mass industry exerts a profound and escalating toll on the environment (Lapointe, 2020; United Nations, 2021). In the wake of mounting literature in recent years spotlighting the adverse ecological and societal effects associated with tourism (Rajapaksha, 2021; Crossley, 2020), it remains disconcerting that both national and local governments predominantly approach the tourism industry through an economic

prism. Predominantly, the extant frameworks governing tourism manifest as territorial marketing tools rather than comprehensive policies for effective tourism management, encompassing aspects such as spatial considerations, resource requisites, and fluid dynamics.

In light of this context, the recent COP26 held in Glasgow marked a significant milestone as the United Nations World Tourism Organization (UNWTO) also committed to ambitious targets in the battle against climate change. The urgency of implementing a comprehensive global strategy for climate action within the tourism sector was emphasized, leading to the unveiling of the 'Glasgow Declaration: A Pledge to a Decade of Climate Action in Tourism'. This momentous declaration garnered over 300 signatories, including prominent players in the tourism realm such as Skyscanner, Accor, Iberostar Group, and the European Tourism Association. These stakeholders not only pledged their support but also vowed to share their action blueprints within a year of signing and to provide transparent progress reports.

A significant step was taken during COP26, where the United Nations Environment Programme (UNEP) and the World Travel and Tourism Council (WTTC) jointly introduced the Net Zero Roadmap for Travel and Tourism (Nepal, 2020). This roadmap thoughtfully addresses the intricate interplay between the tourism industry and climate change. While on one hand, tourism activities and services contribute substantially to the emission of greenhouse gases, on the other hand, climate change itself has the potential to render some of the world's most cherished destinations inaccessible to travellers. One can easily envision Venice submerged, Greece ravaged by forest fires, or the once-vibrant Australian coral reefs vanishing due to the warming of the oceans.

It is an imperative that the tourism sector, which stands at this intersection, undergoes a holistic transformation as part of the broader ecological transition. This transition must encapsulate the creation of quality employment opportunities, reliable income streams, and robust safeguards for our invaluable cultural and natural heritage. Considering the trajectory of tourism, if we were to uphold the pre-COVID trends (with the World Tourism Organization forecasting a return to 2019 levels by 2023), the industry's carbon footprint could triple within three decades, primarily due to the surging emissions related to transportation. Thus, to truly imbue the concept of sustainability within the tourism domain, it is crucial to meticulously assess its ramifications on both the environmental and socio-cultural facets of a destination. Subsequently, tailored measures should be adopted to curtail or eliminate adverse impacts while amplifying positive outcomes through the promotion of sustainable alternatives.



The global hiatus in tourism sparked by the pandemic can be viewed as an unexpected opportunity for numerous destinations to reimagine their economic paradigms (Kusumaningrum and Wachyuni, 2020). By pivotally prioritizing sustainability and nurturing innovation (Miao et al., 2021) these locales can fashion a more resilient and environmentally-conscious future. As we embark on the post-COVID era, channelling our efforts towards this newfound environmental consciousness is paramount to rejuvenating and recalibrating the tourism industry. The symbiotic relationship between responsible travel and safeguarding our planet's health is now more apparent than ever, making it a collective responsibility to ensure the long-term vitality of both our world and the cherished destinations we love to explore. In the realm of tourism, the carbon intensity of each industry branch is closely linked to the quantity of emissions produced relative to a specific benchmark associated with a given economic operation. To establish effective reduction goals, enterprises must first comprehend their carbon intensity levels. In the context of the tourism sector, various economic segments articulate their carbon intensity distinctively:

- **Aviation:** Carbon intensity in aviation is quantified in terms of grams of CO<sub>2</sub> emitted per unit of activity, either per revenue passenger kilometre (RPK) or per available seat kilometre (ASK). This measurement framework allows airlines to assess and manage their emissions based on the distance traveled and the number of passengers carried.
- **Cruise Lines:** Cruise lines evaluate their carbon intensity by gauging grams of CO<sub>2</sub> produced per available lower berth (ALB) kilometre. This metric offers a means to evaluate emissions in relation to the distance traveled while considering the accommodation capacity of the vessel.
- **Accommodation Facilities:** The drive toward sustainability in accommodation establishments has led to the initiation of the Net Zero Hotel25 project. This project is actively working on devising a methodology to streamline and harmonize the measurement of carbon intensity for both hotel and non-hotel facilities. They are exploring two key indicators: kilograms of CO<sub>2</sub> per square metre and kilograms of CO<sub>2</sub> per occupied room per night. This approach enables lodging providers to measure their emissions relative to their operational space and guest occupancy.
- **Tour Operators and Agencies:** Though data for carbon intensity in this sector is currently lacking, a potential approach could involve quantifying carbon intensity based on kilograms of CO<sub>2</sub> per revenue generated or per hour worked. By adopting such metrics, tour operators and agencies can estimate their emissions in relation to their business activities or human resource input.

In summary, understanding and managing carbon intensity are pivotal steps in steering the tourism industry toward sustainable practices. By adopting appropriate measurement standards tailored to each sector, businesses can set meaningful reduction targets and contribute to the overall reduction of carbon emissions in the tourism realm.

WTTC conducted a comprehensive analysis of carbon intensities across various sectors within the tourism industry, including aviation, cruise lines, accommodation, and tour operators, revealing significant variations in carbon intensity (Fig.n6). Notably, the study highlights a substantial disparity in environmental impact, indicating that a 6-day cruise generates approximately 4.5 times more carbon emissions than a short airplane journey, such as a round trip between New York JFK and Chicago ORD covering a distance of around 1300 km, comparable to the distance between Rome and Frankfurt within Europe.

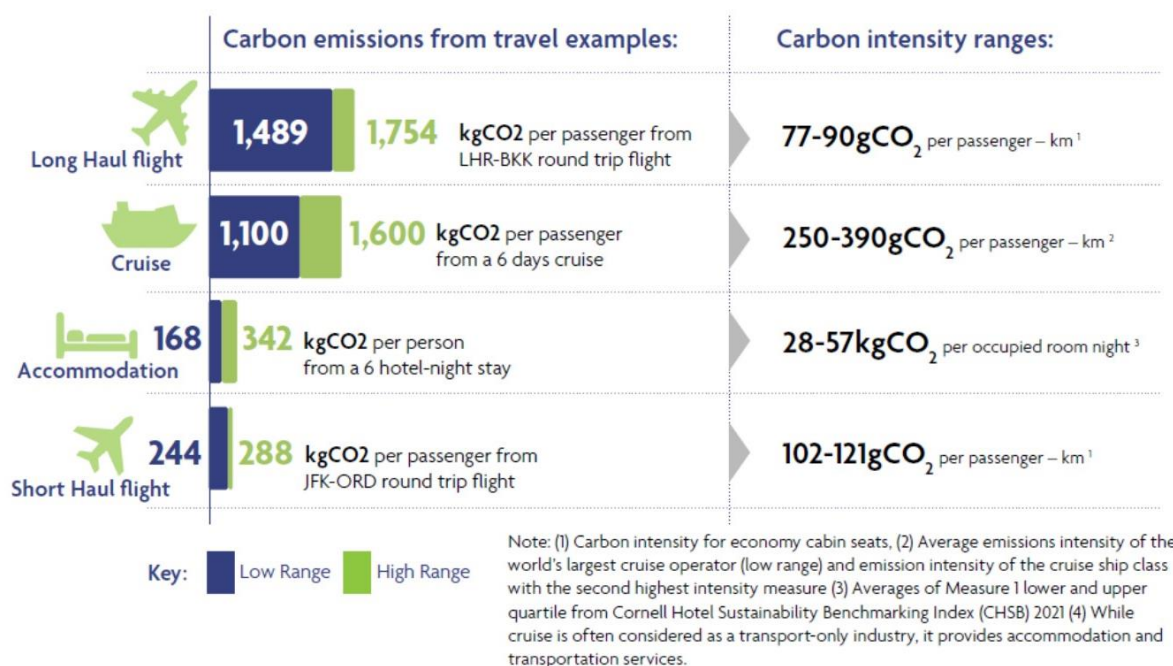


Fig. 6: Carbon emissions from selected travel examples and overview of carbon intensity ranges. Data Source: Accenture’s Aviation Carbon Calculator for flight estimates, Cornell Hotel Sustainability Benchmarking Index (CHSB) Index Tool, SBT Maritime Transport Tool, 2021.

This outcome can be attributed, in part, to the multifaceted nature of the cruise industry, which encompasses not only transportation but also accommodation services. Furthermore, when examining the cumulative carbon footprint, combining the emissions from a brief flight with those generated by a six-night hotel stay results in a carbon footprint that is 2.6 times smaller than that generated during a week-long

cruise. Equally intriguing is the observation that the carbon footprint per passenger during a long-haul flight, for instance, a round trip from London LHR to Bangkok BKK, closely mirrors the emissions produced by an individual over a 6-day cruise. These findings underscore the intricate relationship between travel duration, transportation mode, and the associated carbon emissions within the context of the broader tourism industry.

In recent years, a growing collective awareness of environmental concerns has permeated into various corners of society, including the tertiary sector. This shift in consciousness has prompted both public entities and private enterprises to delve into strategies for mitigating carbon intensity within the realm of tourism. Nonetheless, it's important to note that not all facets of the tourism industry are progressing at the same pace towards sustainability. While commendable progress has been achieved within the accommodation sector, other sectors, notably those heavily reliant on fossil fuels such as aviation and cruises, face more intricate challenges in achieving comparable outcomes.

A comparative analysis of carbon intensity trends across the last three years before the onset of the COVID-19 pandemic paints an informative picture. Within the hospitality sector, a marked reduction of 12% in carbon footprint is evident. This encouraging decline can be attributed to concerted efforts made by prominent hotel chains on a global scale, including Marriott, Hilton, InterContinental, Hyatt Hotels, and Host Hotels & Resorts. The metric employed for evaluation is carbon intensity, quantified in kilograms of CO<sub>2</sub> per square meter. In contrast, the aviation and cruise sectors have encountered a more gradual progress in curtailing their carbon impacts. Specifically, the aviation sector has managed to reduce its carbon intensity by 4%, while the cruise industry achieved a more modest reduction of 2%. This discrepancy can be ascribed to the intrinsic challenges associated with these sectors' heavy reliance on fossil fuels for operational efficiency. The analysis draws from comprehensive data sources, including carbon intensity measures for aviation in grams of CO<sub>2</sub> per passenger kilometre (gCO<sub>2</sub>/pkm), sourced from the ATAG Waypoint 2050 Fact Sheet #3 (February 2021), and the carbon intensity measure for cruises, expressed as available lower berths per kilometre.

To encapsulate the progress within each sector, a visual representation is presented in Fig. 7. The curves reflect the trajectories of carbon intensity reduction over the specified period for the accommodation, aviation, and cruise sectors. Notably, this data underscores the varying degrees of success in navigating the complex landscape of carbon intensity reduction across different segments of the tourism industry.

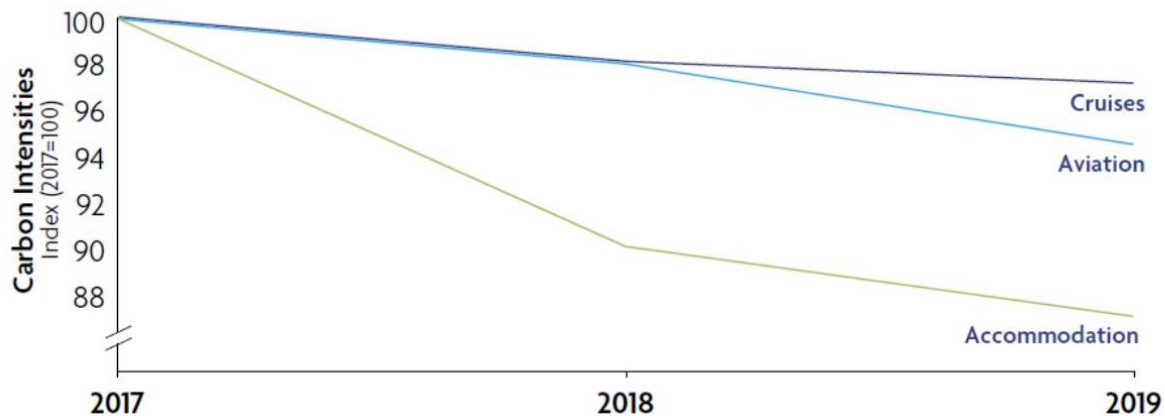


Fig. 7: Average carbon intensity trend in selected Travel & Tourism industries from 2017-2019.  
Source: Reprocessed from WTTC, 2019.

The growth and prosperity of tourism in a given region is intricately woven with the allure of its natural and human-made marvels within its vicinity. In light of this, the imperative of practicing sustainable development has assumed an increasingly vital role. The preservation and enhancement of these resources stand as pillars upon which the appeal of the destination rests. Should these resources face degradation or destruction, the very magnetism that draws visitors to the locale diminishes, thus raising pertinent questions about the region's potential for tourism development. Modern travellers are not solely captivated by picturesque locales; they seek out destinations that exude an aura of unspoiled beauty, underscored by a commitment to high-quality services.

However, the ramifications extend beyond tourism's economic impact. A locale bereft of the attributes that constitute a pristine environment not only fails to captivate tourists but also casts a pall of discomfort over its resident population. The absence of a nurturing environment, one that exhibits the hallmarks of a high-calibre setting, engenders a sense of unease amongst both visitors and the local community alike. In essence, a harmonious and appealing environment serves as a nexus, uniting the interests of prospective tourists and the well-being of the region's inhabitants.

Thus, the pursuit of sustainable development is not merely a choice but an imperative in safeguarding the vitality of a region's tourism industry and nurturing a sense of belonging among its populace. By upholding the symbiotic relationship between the natural and anthropogenic elements that constitute its allure, a destination fortifies its position as a beacon of attraction, an abode of comfort, and a bastion of quality living for all those who tread upon its soil.

## 1.4 SUSTANABLE AND RESPONSIBLE TOURISM DEFINITION

The travel and tourism industry stands as one of the largest and most influential sectors worldwide. However, the detrimental impacts stemming from unchecked tourism have raised substantial concerns that demand urgent attention. In response, the concept of sustainable tourism has arisen, gaining widespread acceptance as a vital and politically appropriate approach to guiding tourism development (Sharpley, 2003). The idea of sustainable tourism emerged in the early 1990s and since then it has been the dominant paradigm in the contemporary planning and management of the global tourism sector (Hall, 2019; Sharpley 2020).

The concept of sustainable development gained international recognition with the publication of the Brundtland Report, or "Our Common Future," in 1987 by the World Commission on Environment and Development (WCED). In the years immediately following the release of the Brundtland Report, the concept of sustainability was applied to the main economic sectors. The discourse surrounding the term "sustainability," building upon the foundational principles outlined in "Our Common Future," was initiated during the early 1990s by Edward Inskeep (1991). Inskeep's work introduced a comprehensive framework that established five fundamental criteria for the concept of sustainable tourism. These criteria embraced the economic, environmental, and societal obligations of the tourism industry, while also recognizing its duty towards ensuring visitor satisfaction and fostering global justice and equity. Immediately after the United Nations' World Tourism Organization began addressing sustainability in tourism, emphasizing the need for balancing economic growth, environmental protection, and social well-being. Specifically, the UNWTO defines sustainable tourism as "a form of tourism that meets the needs of travelers and host regions while protecting and improving opportunities for the future".

In 1995, a pivotal moment took place at the World Conference on "Sustainable Tourism: Envisioning a New Era of Responsible Travel," which convened in Lanzarote. This event marked a significant shift in the perception of tourism, firmly intertwining it with the principles of sustainability. The conference illuminated the imperative to forge a tourism sector capable of harmonizing economic aspirations and environmental imperatives of the contemporary world. This vision encompassed not only a profound respect for the socio-economic and physical fabric of each destination, but also a reverence for the local communities and populations that play host. Central to the discussions was an emphasis on safeguarding and reinforcing human dignity, nurturing the well-being of both indigenous communities and travellers. The outcome of these deliberations culminated in the creation of the "Sustainable Tourism Charter", an instrumental document delineating a blueprint for sustainable tourism development. This blueprint embodied a tourism ethos that could fulfil the desires of tourists while

concurrently nurturing and expanding opportunities for future generations. A guiding principle of this charter was the meticulous management of resources, aimed at achieving equilibrium between economic, social, and environmental requisites. This equilibrium was to be achieved while preserving the cultural essence, vital ecological processes, biological diversity, and life systems intrinsic to the regions under consideration.

Numerous scholars (Briguglio et al., 1996; Butler, 1991; Sharpley, 2000; Vellas and Becherel, 1999; WCED, 1987) converge on the definition of 'sustainable tourism development' as a multifaceted endeavour that encompasses economic, social, and environmental dimensions. Promoting sustainable tourism indeed means rethinking traditional tourism by considering the three aspects of sustainability, environmental, social, and economic, in an integrated and comprehensive way. This paradigm shift towards sustainability involves every facet that contributes to a holistic tourism experience. Sustainable tourism is fundamentally rooted in striking a delicate equilibrium. It entails safeguarding the environment, upholding cultural authenticity, fostering social equity, and advancing economic prosperity, all while fulfilling the immediate and long-term needs of the local population, both in developed and emerging nations (Liu et al., 2013; Mitchell and Hall, 2005; Swarbrooke and Horner, 2004). This equilibrium is characterized by an intergenerational commitment (Liu et al., 2013), and is designed to ensure that the viability of tourism in a given area remains sustainable indefinitely (Butler, 1993; Butler, 1999). The development of sustainable tourism takes into consideration several issues to work on: biodiversity and the preservation of natural heritage, the protection of local communities and the enhancement of cultures and traditions and the creation of sustainable economic actions in the field of tourism that aim to alleviate poverty. Sustainable tourism, unlike mass tourism, listens to the needs of the individual traveler (Arnegger et al., 2010; Pomeroy et al., 2011) by offering him a unique experience, while minimizing the negative effects on the environment, the economy, and the host society. It aims to create new jobs and improve the local economy by enhancing traditions and typical products. In this sense, the potential of the tourism industry to foster sustainable development, especially through employment generation, notably for women and marginalized communities, is well-documented (Cukier, 2002; Gorg, 2000).

In the 2000s and 2010s, sustainable tourism practices began to gain broader recognition and acceptance across the tourism industry. Governments, NGOs, and the private sector collaborated to develop and implement sustainable tourism strategies, including community-based tourism initiatives, protected area management, and conservation projects. While in the first definition of sustainable tourism focused on the possibility of future tourists to be able to live the same experiences as the current ones, in the following years the focus shifted to the host community and its right to preserve

socio-cultural habits. In this context, the idea of community tourism emerges: the principles of sustainable development are applied to enhance the residents' overall quality of life. This is achieved by optimizing local economic gains, safeguarding the natural and constructed environment, and delivering an enriching and high-caliber experience for visitors (Bramwell and Lane, 1993; McIntyre, 1993; Park and Yoon, 2009; Park et al., 2008; Stabler, 1997).

On one hand, the concept of sustainability in tourism has been hailed as a transformative idea, guiding the way toward more ecologically and socially conscious models of tourism development (Ritchie and Crouch, 2000; Swarbrooke, 1999). Conversely, this concept has faced persistent criticism, with detractors highlighting its shortcomings and limitations (Higgins-Desbiolles, 2010). In essence, the discourse around sustainability has successfully underscored the necessity for a harmonious balance between economic interests and environmental concerns within the realm of tourism. This dialogue has translated into tangible benefits, as evident in the adoption of commendable practices such as energy conservation, recycling, waste reduction, emissions control, and efforts to enhance the well-being of local communities. Nevertheless, a counter-narrative also emerges. Wheeler posits that the appealing theoretical notion of sustainable tourism often falters in practical application, morphing into a tool for public relations aimed at addressing criticisms without bringing about substantive changes in behavior (Wheeler, 1993). Indeed, reaching a consensus on the effectiveness of sustainable tourism development remains an elusive pursuit (Chettiparamb and Kokkranikal, 2012), and its real-world implementation continues to pose formidable challenges, thereby leaving a substantial portion of the tourism industry in what Higgins-Desbiolles (2010) characterizes as an "alarmingly unsustainable" state (p. 117). Tourism stakeholders are progressively adopting sustainability measures at a gradual pace. However, it is important to note that certain destinations may potentially misrepresent their sustainability efforts, inadvertently setting elevated expectations for incoming tourists (Poon, 1989). This can subsequently lead to a disconcerting dissonance between the envisioned and actual level of sustainability experienced by these visitors.

The UN's 2030 Agenda for Sustainable Development outlines a set of goals aimed at eradicating poverty, safeguarding the environment, and fostering prosperity for all by 2030. This comprehensive framework has brought significant attention to the role of sustainable tourism, a sector of economic importance. Scholars have focused on studying how tourism aligns with the Sustainable Development Goals (SDGs) and the Millennium Development Goals (MDGs), with references to works by Christie and Sharma (2008), Saarinen et al. (2011), and Saarinen and Rogerson (2014). It is noteworthy, however, that the UN's 2030 Agenda primarily touches upon tourism thrice: in relation to ecological conservation, job creation, local culture and products,

and the sustainable utilization of marine resources to bolster economic gains for small island nations and least developed countries. Despite some criticisms surrounding the methods of achieving these goals, as raised by Ferguson (2011) and Scheyvens et al., ghes (2016), the prevailing discourse largely mirrors the perspectives of the UNWTO and UNDP's (2017) depiction of tourism's progression towards accomplishing the SDGs. As highlighted by the UNDP and UNDP (2017), it is worth noting that tourism, if mismanaged, could detrimentally impact people, the environment, prosperity, and peace (p. 31), a point that is mentioned without irony following their examination of national reports on tourism's relationship with the SDGs (Tab. 3). Integral factors critical to the success of the SDG agenda by 2030 encompass improved competitiveness (Ruhanen, 2007), the influential role of the private/corporate sector, and the effective integration and application of technology to enhance responsiveness to environmental, economic, and social challenges (Herrera-Cano and Herrera-Cano, 2016; Henriques and Brilha, 2017; Imon, 2017; Koide and Akenji, 2017; Lima et al., 2012; Holden et al., 2011). These considerations often intersect with localized case studies (Lapeyre, 2011; Matarrita-Cascante et al., 2010; Mbaiwa, 2011).

Gloria Guevara, President and CEO of WTTC, echoed this sentiment during the Official Closing ceremony of the International Year of Sustainable Tourism for Development 2017, where discussions centred on the roadmap for advancing tourism's contribution to the 2030 Agenda for Sustainable Development. She emphasized, "Sustainability remains the cornerstone of our endeavours. We are committed to leading the dialogue on strategic planning and sustainable management of tourism growth, aiming to shape a collective industry response to the challenges posed by climate change."

SDG	REQUIREMENTS
GOAL 1: END POVERTY IN ALL ITS FORMS EVERYWHERE.	<b>1.1. Campaigns and initiatives with social aims</b> Promote the collaboration between the administration and the destination's tourism entities and companies in campaigns and initiatives for social purposes.
	<b>1.2. Benefits of tourism in the local economy</b> Develop measures to maximise the economic benefits of tourism for the local community and create stable links with the local economy of the destination and other economic activities in its surroundings.
	<b>1.3. International cooperation and humanitarian action projects</b> Develop international cooperation projects, solidarity projects, humanitarian action projects or assistance projects on sustainable tourism.
GOAL 2: END HUNGER, ACHIEVE FOOD SECURITY AND IMPROVED	<b>2.1. Local sustainable agriculture</b> Develop actions for the promotion and support of the procurement of products from the local, sustainable



NUTRITION AND PROMOTE SUSTAINABLE AGRICULTURE	agriculture and neighbouring territorial areas, by the tourism sector, including the gastronomic offer. by the tourism sector, including gastronomy.
	<b>2.2. Food quality controls</b> Develop a control system for food safety, hygiene and quality through adequate processes and improve food and nutritional habits of the local population.
	<b>2.3. Measures against food waste</b> Develop measures to avoid food waste at the destination through the promotion of good practices, and to create mechanisms and incentives for their adoption by the tourism sector.
	<b>2.4. Protection of fertile land</b> Planning of the territorial expansion of tourism development to ensure that it does not affect the fertile land around the towns where it is implemented.
GOAL 3: ENSURE HEALTHY LIVES AND PROMOTE WELL-BEING FOR ALL AT ALL AGES	<b>3.1. Prevention of environmental risks</b> Develop an efficient security system to prevent, control, publicly report and respond to potential hazards threatening the health and physical integrity of residents and visitors.
	<b>3.2. Healthy tourism products and activities</b> Ensure the development, promotion and prioritisation of health and tourism activities and products.
	<b>3.3. Health care</b> Enhance the ability to make a significant contribution to the improvement of healthcare at the destination.
GOAL 4: ENSURE INCLUSIVE AND EQUITABLE QUALITY EDUCATION AND PROMOTE LIFELONG LEARNING	<b>4.1. Inclusive and quality education</b> Have a quality and inclusive training capacity adapted to the real needs of the destination, as well as specific training in terms of tourism sustainability.
	<b>4.2. Education in tourism and sustainable development</b> Develop educational and outreach activities on tourism and sustainable development.
	<b>4.3. Inter-institutional collaboration for sustainability</b> Collaboration with entities, institutions or educational and training centres for the development of initiatives and projects related to sustainability in the tourism sector.
GOAL 5: ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS	<b>5.1. Gender equality policies and campaigns</b> Generate equality plans and policies promoted by public entities and the main stakeholders in the tourism sector.
	<b>5.2. Working conditions and women's empowerment</b> Promote working conditions that ensure gender equality conditions that boost female empowerment.
GOAL 6: ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL	<b>6.1. Water safety, quality and consumption controls</b> Carry out regular safety and quality analysis and controls of all water sources located within the tourist areas of the destination.
	<b>6.2. Water footprint</b> Develop programmes and initiatives for efficient use of water within the tourism industry, to calculate and decrease the water footprint.

	<p><b>6.3. Water saving</b> Develop awareness campaigns, guides, and training and information resources on water saving for tourists, visitors and the tourism industry of the destination.</p>
	<p><b>6.4. Water saving awareness campaigns</b> Adopt policies for the elimination of water pollution and untreated and uncontrolled discharges, as well as for the prevention of hazardous chemical or biological discharges.</p>
	<p><b>6.5 Prevention of water pollution/ water recycling</b> Encourage the collection and safe use of rainwater, recycling and safe reuse of water resources and the protection of water related ecosystems for tourism use, as well as forests, rivers, wetlands and aquifers.</p>
<p>GOAL 7: ENSURE ACCESS TO AFFORDABLE, RELIABLE, SUSTAINABLE AND MODERN ENERGY FOR ALL</p>	<p><b>7.1. Efficient use of energy</b> Develop programmes and initiatives for the efficient use of energy in the tourism sector.</p>
	<p><b>7.2. Renewable energies</b> Commit to the use of renewable energy sources within the destination and the industry, including self-production, procurement of green energy, passive systems in construction, as well as proactive regulatory frameworks and incentives.</p>
	<p><b>7.3. Energy saving campaigns</b> Develop awareness campaigns, guides, and training and information resources on energy saving for tourists, visitors and the tourism industry.</p>
<p>GOAL 8: PROMOTE SUSTAINED, INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND PRODUCTIVE EMPLOYMENT AND DECENT WORK FOR ALL</p>	<p><b>8.1. Labour rights, safety and discrimination</b> Develop legal frameworks or agreements to ensure the protection of labour rights, the safety of workers, and the fight against all forms of labour discrimination at the international level.</p>
	<p><b>8.2. Work conciliation and youth employment</b> Generate provisions in terms of family-work balance within the tourism sector, and involvement of less favoured groups, including young people.</p>
	<p><b>8.3. Local employment and entrepreneurship</b> Develop measures to create qualified local employment and promote entrepreneurship in sustainable tourism activities and services.</p>
	<p><b>8.4. Technological innovation in the tourism sector</b> Promote modernisation, diversification and technological innovation in the tourism sector, to increase productivity, especially in labour-intensive tasks, and to promote sustainable tourism, culture and the use of local products.</p>
<p>GOAL 9: BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION</p>	<p><b>9.1. Sustainable infrastructure</b> Develop initiatives, projects and guidelines to consolidate and promote sustainable infrastructures for tourism, including areas such as planning of land and territory uses, construction, accommodation, communication, mobility, energy or water cycle.</p>
	<p><b>9.2. Access to tourism infrastructure</b></p>

	<p>Ensure access to all facilities and attractions generated by tourism for the residents.</p> <p><b>9.3. Use of ICTs for sustainable tourism</b> Develop initiatives and projects capable of mobilising the use of information technologies to create responsible tourism activities, as well as smart and sustainable management models in terms of resource usage.</p>
GOAL 10: REDUCE INEQUALITY WITHIN AND AMONG COUNTRIES	<p><b>10.1. Social integration and equal opportunities</b> Develop policies for social integration aiming at the elimination of discriminatory elements, and ensuring equal opportunities for the entire population.</p>
	<p><b>10.2. Universal accessibility</b> Develop measures to ensure universal access at all levels of the value chain of tourism, including physical and digital environments, transport systems, and the whole range of facilities from the hospitality industry, service sector and tourism activities.</p>
	<p><b>10.3. Diversification of benefit sharing</b> Encourage and promote the income of local SMEs in all links of the tourism value chain and avoid the concentration of economic power in the hands of a few, to diversify the distribution of the benefits of tourism.</p>
GOAL 11: MAKE CITIES AND HUMAN SETTLEMENTS INCLUSIVE, SAFE, RESILIENT AND SUSTAINABLE.	<p><b>11.1. Sustainable territorial planning</b> Develop strategic territorial planning in favour of the sustainability of the tourism model, its territorial, urban, social and environmental integration. It must also include the protection of the natural and cultural heritage of the destination, paying special attention to intangible heritage, for it is extremely vulnerable.</p>
	<p><b>11.2. Cultural and natural heritage</b> Create tourism activities and products based on cultural and natural heritage and respecting the authenticity and integrity criteria of assets.</p>
	<p><b>11.3. Traditions and intangible cultural heritage</b> Transfer local knowledge associated with traditions and intangible cultural heritage through initiatives and projects related to tourism. Experience is, therefore, effectively transferred and integrated into the tourism activities.</p>
	<p><b>11.4. Overtourism</b> Avoid Overtourism and take care of ensuring that the adoption of tourism development does not have a negative impact on the basic aspects of people's lives, such as the cost of housing and rent, population movement and access to public and heritage areas, among others.</p>
GOAL 12: ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS	<p><b>12.1. Local purchase and consumption</b> Have a purchasing policy and commercial culture that prioritises the consumption of local, sustainable products and services in all its operations.</p>
	<p><b>12.2. Proximity consumption</b></p>

	<p>Ensure the separate collection and maximum recycling of waste generated by the tourism activity, as well as its proper disposal.</p> <p><b>12.3. Waste management</b> Minimise external inputs and waste generation, thus reducing the destination's dependency generated by tourism and increasing local consumption.</p> <p><b>12.4. Collaboration between sending and receiving regions</b> Develop responsible consumption criteria along the supply chain, at a public and private level.</p>
GOAL 13: CLIMATE ACTION	<p><b>13.1. Carbon footprint</b> Elaborate programmes and initiatives aimed at the reduction and/or compensation of the destination's carbon footprint.</p> <p><b>13.2. Sustainable transport</b> Promote sustainable mobility to and from the destination, including public transportation and alternative zero- or low-emission mobility systems.</p> <p><b>13.3 Resilience of tourism sector to climate change</b> Create programmes and initiatives to increase the resilience and adaptation of the tourism sector, destinations and host communities to climate change.</p>
SDG 14: CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT	<p><b>14.1. Quality of water bodies</b> Establish criteria, regulations and initiatives for controlling the state and quality of all bodies of water, and the development of tools for preventing the pollution of water flows, lakes, wetlands, coastal waters and seas.</p> <p><b>14.2. Aquatic and marine resources</b> Ensure the sustainable use of marine and aquatic resources in terms of their exploitation for tourism, as well as their enjoyment in different activities.</p> <p><b>14.3. Awareness raising on aquatic ecosystems</b> Have a set of information and aware-rising resources to raise awareness and respect towards aquatic ecosystems aimed at residents and visitors.</p> <p><b>14.4. Promotion of the respectful use of coasts and seas</b> Develop sustainable tourist activities and services that encourage the respectful use of beaches and coastal environments.</p>
GOAL 15: SUSTAINABLY MANAGE FORESTS, COMBAT DESERTIFICATION, AND HALT AND REVERSE LAND DEGRADATION AND HALT BIODIVERSITY LOSS	<p><b>15.1. Environmental impact of tourism activity</b> Have systems to evaluate the environmental impact of tourism on biodiversity, habitats and landscapes (including urban areas), and the capacity to anticipate environmental risks and correcting adverse effects.</p> <p><b>15.2. Natural resources conservation plan</b> Have an up-to-date, publicly available inventory of its natural resources (fauna, flora, among others), as well as an assessment of its tourism assets and attractions.</p> <p><b>15.3. Flora and fauna</b> Ensure the preservation of local flora and fauna, can regulate the introduction of invasive exotic species, and to control the commercialisation and exhibition of the destination's wildlife.</p>

	<p><b>15.4. Promoting the respectful use of natural heritage</b> Develop sustainable tourism activities and services that promote respectful use of natural heritage and transmit the values of the destination and its identity through the tourist experience.</p>
GOAL 16: PROMOTE FAIR, PEACEFUL AND INCLUSIVE SOCIETIES	<p><b>16.1. Citizen participation</b> Have a governance system that includes all stakeholders, especially at a local level, which promotes public-private partnerships, and where the role and responsibilities of each one of those stakeholders are clearly defined, including a citizen participation system.</p>
	<p><b>16.2. Tourism impact assessment</b> Have an adequate indicator system which enables the evaluation and monitoring of the continuous improvement and tourist impacts of its components' sustainability, as well as the level of satisfaction of tourists and residents.</p>
	<p><b>16.3. Resident and visitor satisfaction</b> Have mechanisms to control, measure and publicly report data on the satisfaction of the resident and visiting population regarding the tourist activity.</p>
	<p><b>16.4. Information of tourist interest</b> Provide visitors with updated, clear, accurate information on spaces, itineraries, establishments, services and infrastructures of tourist interest.</p>
	<p><b>16.5. Sustainable tourism strategy</b> Develop a tourism strategy through which accept the implementation of sustainable commitments. Such an approach must be publicly available in common languages among tourists.</p>
	<p><b>16.6. Policies against exploitation in the tourism sector</b> Have consolidated practices or policies to prevent any type of exploitation within the tourism industry of the destination.</p>
GOAL 17: STRENGTHEN THE MEANS OF IMPLEMENTATION AND REVITALIZE THE GLOBAL PARTNERSHIP FOR SUSTAINABLE DEVELOPMENT	<p><b>17.1. Projects and partnerships for sustainable tourism</b> Be a part of global and regional networks, projects or partnerships for sustainable development in any of its aspects.</p>
	<p><b>17.2. Exchange of good practices</b> Capacity to promote and facilitate the exchange of good practices and knowledge within the destination and through external experiences, encouraging the replication of successful cases in the local, sustainable tourism.</p>
	<p><b>17.3. Cooperation for innovation in sustainable development</b> Develop cooperation initiatives with academic institutions or other entities, whether public or private agreements, to promote innovation in the sustainable development of tourism in all areas, including the management and assessment of knowledge as a tourism resource.</p>

Tab. 3: Tourism in relation to the 2030 Agenda. Source: Reprocessed from UN 2030 Agenda, 2015.

In 2017, the World Tourism Organization (UNWTO) declared it the International Year of Sustainable Tourism for Development. This special period offered a rare chance to enlighten both public and private decision-makers about the role of sustainable tourism in fostering development. It also united all stakeholders, urging collaborative efforts to transform tourism into a force for positive change. The hashtag #travelenjoyrespect encapsulated the essence of responsible travel, embodying the principles of traveling, experiencing joy, and demonstrating respect.

In recent times, the realm of sustainable tourism has witnessed a significant paradigm shift, with a growing emphasis on the concept of responsible tourism (Mihalic, 2016). This transformative trend is evident in various facets, spanning research, written works, and concrete initiatives. Noteworthy instances encompass the emergence of innovative approaches, such as the "Charter for Sustainable and Responsible Tourism" (TSG, 2012), a pioneering European framework that underscores the fusion of sustainability and responsibility. Further illuminating this shift, two seminal literary contributions have surfaced: "Responsible Tourism" (Leslie, 2012) and "Taking Responsibility for Tourism" (Goodwin, 2011). These landmark texts delve deep into the ethos of responsible tourism, dissecting its principles, implications, and imperatives. By transcending the boundaries of conventional sustainable tourism discourse, these works forge a comprehensive understanding of responsible tourism's intricate tapestry. The evolution towards responsible tourism signifies a pivotal juncture where sustainability converges with ethical consciousness. This symbiotic relationship between sustainable and responsible tourism not only redefines the boundaries of responsible travel but also introduces a profound sense of accountability within the global tourism landscape. As this transformative journey unfolds, it becomes increasingly evident that responsible tourism is poised to be the cornerstone of a more harmonious and conscientious approach to exploring the world.

Responsible tourism is implemented according to principles of social and economic justice in full respect of the environment and cultures. It recognizes the centrality of the host community and its right to be a protagonist in the sustainable and socially responsible tourism development of its territory. It works by fostering the positive interaction between the tourism industry, local communities, and travelers. In particular, responsible tourism gives a central role to the host community by recognizing its right to participate in the decision-making process that determines the tourist development of their territory. Compared to sustainable tourism, therefore, not only must we not create negative impacts on local populations, but the latter must be able to choose the future of the place where they live and which elements (natural, cultural...) to give a tourist value to.

Sustainable and responsible tourism continues to evolve as a dynamic field, with a growing emphasis on holistic approaches that consider the interconnectedness of environmental, social, and economic factors. In spite of the significant interest and conspicuous focus on tourism, it is disheartening to observe that empirical indicators point towards a decline in global sustainability within the tourism sector. This notion is substantiated by the research of Hall (2021), Ruddy et al. (2015), as well as Scott et al. (2016).

Rather than witnessing an improvement in sustainability efforts, the trajectory of tourism's impact on the environment appears to be regressing. Despite the apparent enthusiasm and heightened awareness, the measured outcomes reflect a concerning reality. These findings challenge the assumption that increased attention automatically equates to enhanced sustainability practices within the tourism industry. These concerns underscore the intricate relationship between tourism and sustainable development. The recognition of tourism's potential to drive positive economic, social, and environmental outcomes has been accompanied by a growing awareness of its potential pitfalls. As tourist numbers surge, destinations once celebrated for their cultural and natural allure have struggled to cope with the influx, leading to a range of issues such as overcrowding, strain on local resources, and cultural commodification.

The cases of Barcelona and Venice serve as cautionary tales, offering insights into the need for balanced and thoughtful approaches to tourism development. While tourism can undoubtedly contribute to economic growth and job creation, the negative repercussions experienced in these destinations have prompted a reevaluation of the strategies employed. There is a call for a more comprehensive understanding of sustainability that takes into account not only economic gains but also the preservation of local identity, natural habitats, and the well-being of host communities. In this context, the WTTC and McKinsey & Company report (2017) stands as a significant milestone. It highlights the imperative of managing tourism growth to prevent overcrowding and its associated challenges. The report's recommendations and insights provide a valuable framework for policymakers, businesses, and communities to collaboratively address the complex issues arising from tourism's "success." Ultimately, the convergence of concerns about tourism's impact on sustainable development at the local scale and the collective response from stakeholders emphasize the necessity of a holistic and responsible approach to tourism management. By learning from the lessons of destinations like Barcelona, Iceland, and Venice, and by drawing on the insights of influential reports like the one from WTTC and McKinsey & Company, the tourism industry can move towards a more sustainable and harmonious future that benefits both travellers and host communities alike (Hall, 2021).

At the root of the difficulties of developing new forms of sustainable tourism there are in fact several external factors. The concept of sustainability in the context of tourism has long been guided by three fundamental principles: economic, socio-cultural, and environmental sustainability. Yet, some scholars have endeavoured to expand this framework by proposing a fourth dimension: political sustainability (Ritchie and Crouch, 2000). Despite these efforts, the idea of a distinct political pillar never fully materialized. Unlike the concrete impacts of tourism on the economic, socio-cultural, and environmental fronts, the political dimension does not exhibit a direct correlation, making its incorporation as a fourth pillar challenging. Nonetheless, in tandem with this discourse, a separate dialogue has arisen, addressing the political aspect through a number of external prerequisites imperative for achieving sustainable tourism.

These prerequisites to the implementation of truly sustainable tourism are (Fig. 8):

- Firstly, the bedrock of sustainable tourism lies in cultivating widespread consciousness of sustainability and ethical considerations. This necessitates comprehensive environmental education and information dissemination aimed at all stakeholders engaged in both the supply (hotel, restaurants, travel agency...) and demand (tourists) sides of tourism. The viability of sustainable tourism is inextricably linked to the maintenance of a high degree of tourist satisfaction, thereby aligning with market demands (Mihalic, 2013; UNWTO, 2004).
- Secondly, the aforementioned political dimension becomes relevant in the context of informed involvement from all stakeholders within a destination. Herein lies the significance of forging consensus, amassing a critical mass of support, and fostering robust political leadership – all of which collectively pave the way for the effective implementation of sustainable tourism practices and plans. (Ritchie and Crouch, 2000).
- Thirdly, development of new policies and plan to manage the increasing number of tourists.

By recognizing the intricate interplay between environmental, socio-cultural, economic, and these three external elements, the vision of sustainable tourism can be more comprehensively realized.



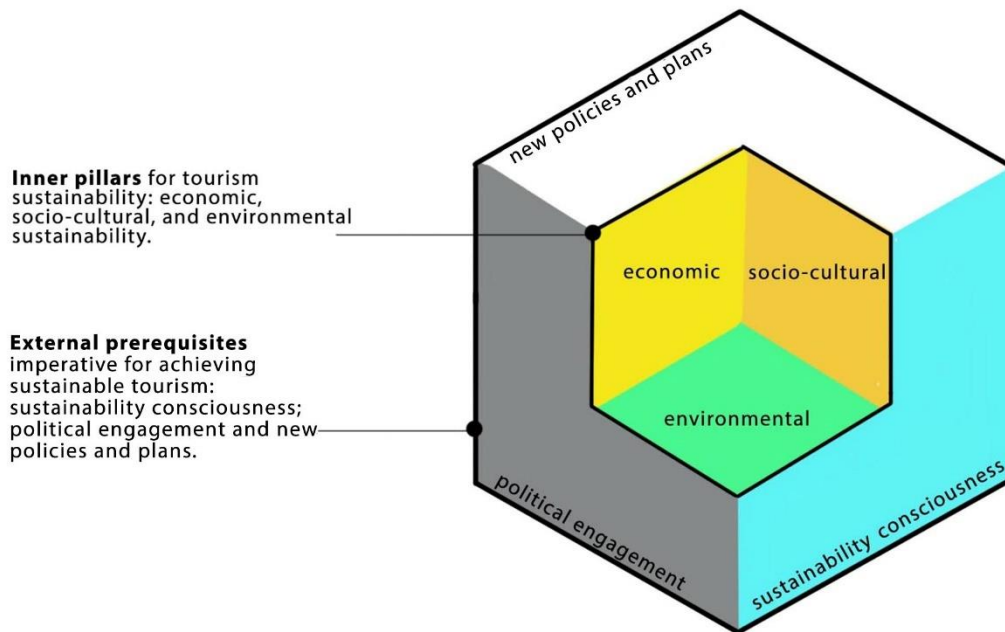


Fig. 8: Inner pillars of sustainable tourism and external prerequisites. Source: author.

Recognizing the potential presented by the tourism sector, the imperative lies in crafting globally recognized benchmarks and criteria capable of guiding and harnessing the influence of the tourism phenomenon. This effort is geared towards transforming tourism into a conscientious endeavour, steering its trajectory towards sustainability-driven growth and securing its enduring existence. The establishment of a comprehensive methodology serves the purpose of systematically tracking the advancements achievable by diverse tourist destinations or establishments in terms of sustainability.

This systematic approach facilitates their evolution in alignment with the tenets of sustainability, ensuring their responsiveness to evolving circumstances while upholding the principles of environmental, social, and economic responsibility. Currently, there are several methods in the literature but none is universally recognized as a scalable and replicable response to meet the needs of different tourist locations. This thesis tries to propose a unique methodology to measure the maximum level of tourism development of an area to be considered sustainable and provides participatory planning tools for the responsible management of tourism phenomena.

# 2.

## TOURISM MANAGEMENT AND PLANNING: LITERATURE REVIEW

*Tourism is a significant global industry that contributes to economic development and cultural exchange. However, if not managed appropriately, tourism can have detrimental effects on local communities and the environment. To mitigate these adverse impacts, responsible and sustainable tourism management and planning are essential. Tourism management and planning aim to foster sustainable tourism, which balances economic growth with environmental preservation and social responsibility. It involves careful consideration of the impacts of tourism activities on the environment and local communities. Proactive planning helps identify sensitive areas and develop strategies to protect them from over-tourism. This includes implementing waste management systems, promoting sustainable transportation, and enforcing conservation practices. Involving local communities in the tourism planning process allows them to voice concerns, contribute ideas, and benefit from tourism. It can empower communities by providing opportunities for employment, entrepreneurship, and cultural preservation.*

*Sustainable tourism planning and management offer a holistic approach to ensuring that the tourism industry contributes positively to economic development, environmental protection, and socio-cultural preservation. By embracing the principles of sustainability and implementing strategic measures, destinations can create a harmonious balance that benefits both present and future generations. As the travel industry evolves, ongoing efforts to address challenges and refine strategies will be crucial to achieving the long-term goals of sustainable tourism.*

*This chapter provides a review of what has been said in the scientific literature on the topic of sustainable tourism policies and planning. The last section focuses on tourism carrying capacity, a methodology used to quantify the maximum number of tourists per day that can visit a destination without causing significant damage to the economic, social and environmental environment. An analysis of its use and the methods identified for its quantification in the literature is also given for carrying capacity.*

## 2.1 SUSTAINABLE TOURISM PLANNING AND POLICIES

Tourism planning seeks to coordinate the complex interactions between the tourism industry, visitors, the environment and host communities in order to facilitate development and minimise negative impacts (Liu and Wall, 2006; Hall, 2008; Mason 2020).

Since the development of tourism in a certain area depends largely on the natural and anthropogenic attractiveness of its surroundings, planning involves working towards the long-term sustainability and quality of natural and human resources. (Najdeska, Rakicevik, 2012). Inadequate planning, lack of regulation, and failure to distribute tourism benefits sustainably have contributed to the unchecked growth of tourism in specific areas (Gill, 2004). It is widely acknowledged in scholarly research that the unchecked proliferation of tourism can strain the delicate balance between the economic benefits derived from the industry and the social and environmental costs borne by the host community (Long et al., 1990; Prentice 1993; McCool and Martin, 1994; Gill, 2004; Liu and Wall, 2006). Rapid growth, without corresponding strategic planning and management frameworks, often results in a host of problems such as overcrowding, environmental degradation, and an erosion of the cultural integrity of the destination (Frent, 2016). Furthermore, the absence of adequate planning tools can lead to a lack of infrastructure development and a failure to anticipate the needs and concerns of both residents and tourists. This oversight can intensify negative perceptions within the host community, as locals may experience disruptions to their daily lives, witness the deterioration of their surroundings, and feel excluded from the decision-making processes that shape the development of their own community (Yang et al., 2013; Higgins-Desbiolles et al., 2019; Uslu et al., 2020).

The sustainable development of tourism refers to the non-exploitative use of natural, cultural, and all other tourist resources by the current generation, preserving them for the future use of generations to come. Recognizing the differences within the tourism sector and the diverse components involved in the supply chain, tourism cannot be easily defined as a clear and unified industry. Consequently, working towards the improvement of the tourism sector while adhering to sustainability principles becomes a complex task (Vacaro, 2023). It is crucial to consider that tourism planning often encompasses conflicting objectives. Historically, tourism planning has been influenced by market forces, creating a constant tension between notions of sustainability and sustained economic growth. The fundamental issue lies in the fact that current methods and processes allow undesirable cumulative environmental, economic, and social changes, posing a threat to the long-term sustainability of tourist regions

(Testoni, 2001). Despite sustainable development being a research theme since the early '90s, both public and private tourism sectors have faced criticism for their slow progress in applying the concept. Frequently, sustainability principles remain unimplemented due to a lack of effective dissemination of knowledge at the destination level, where planning and management of tourism activities are crucial (Ruhanen, 2017). The idea of sustainable tourism development continues to be a topic of intense discussion, with diverse interpretations and ongoing questions about its effectiveness as both a means and an end in the realm of tourism development. This ongoing debate is, to a significant extent, a result of the lack of consensus or clarity regarding its precise meaning and objectives (Sharpley, 2000). “Ecotourism, tourism in support of sustainable development, tourism as cultural expression of both hosts and guests, tourism as a reflection of political correctness, are all considerations that go far beyond the traditional parameters of money, time and infrastructure” (Murphy and Price, 2012: 163). Nonetheless, the prevailing sustainable tourism policy frequently prioritizes economic growth, thereby exhibiting theoretical disparities with the principles of sustainable development (Guo et al., 2019).

Governance must involve communication with the local population, engaging them in planning and management decisions, while ensuring a fair distribution of benefits and costs among all stakeholders. The local populations bear the social, economic, and environmental compromises, making inclusive decision-making imperative (Tosun, 2000). Understanding the intricate political system and power structure within a society is key to comprehending the development, planning, and implementation of sustainable tourism policy. Political influence, the use of public resources as a tool for political power, and the politicization of the public sector are fundamental causes of weakened progress in sustainable tourism development (Yasarata, 2010). Sustainability requires a holistic vision and planning that goes beyond the immediate. Practically, it demands that local administrators, tourism businesses, and tourists themselves understand that society, the economy, and the environment (encompassing both natural resources and the impacts of climate change) are fundamentally interconnected (Schilirò and Grasso, 2021). The planning issue has become increasingly relevant since the '90s, with the rise of low-cost flights leading to an expansion of tourist markets and the creation of larger and more numerous tourist destinations. This becomes even more urgent as the overall tourism industry is expected to continue growing in the coming decades, with significant effects on the economy, cultural identity, and the physical environment (Risteskia et al. 2012). On a global scale, it is crucial to distribute development adequately among locations and tourist destinations while addressing the dangers associated with overcrowding that can lead to

unsustainable development in popular and attractive tourist spots. However, it requires the adaptation of all participants in creating tourist offerings in specific destinations, considering them as a complex system with the goal of ensuring competitiveness in the tourism market. In response to the potential hazards of uncontrolled tourism development, new concepts have been developed to achieve competitiveness, such as sustainable destination development, destination management planning, and the implementation of integrated quality management. Attempting to prevent haphazard tourism development, sustainable tourism development planning emerges as the only successful way forward (Najdeska and Rakicevik, 2012).

The evident imbalance in the effectiveness of sustainable tourism policies and planning has become increasingly apparent. Conventional paradigms and methodologies employed in addressing tourism challenges prove insufficient in effectively mitigating the myriad issues associated with sustainable tourism (Guo et al., 2019). Sustainable tourism, in its current trajectory, appears paradoxical. While the concept is widely acknowledged and disseminated by industry stakeholders, government bodies, academics, and policy influencers, the tangible impact of tourism development on the environment suggests a failure in achieving true sustainability. Numerous scholars approach the prospect of achieving sustainable tourism with a sense of caution, as highlighted by Mowforth and Munt (2009). They express concern that discussions about sustainability often fall short in terms of practical application and, on occasion, may inadvertently conceal unsustainable development practices.

This paradoxical situation may be attributed to the reluctance of policymakers to acknowledge the shortcomings of existing sustainable tourism policies. Previous efforts in policy learning have been limited to the level of policy tools and concepts, overlooking the necessity of a more profound shift. To foster genuine sustainable tourism development, there is a pressing need to redefine and reorient the prevailing paradigm of sustainable tourism policy (Gössling et al., 2012; Hall, 2013; Hall, 2013a). This involves a comprehensive reevaluation of not just the tools and concepts but a fundamental reconsideration of the underlying principles guiding policy formulation and implementation.

According to Overton (1999) and Hall and Brawn (2008), sustainable tourism is closely linked to power issues, particularly the level of control that local communities have over the tourism development in their living areas. Tourism plays a transformative role in reshaping power dynamics and values within destinations. Administrations supporting sustainable tourism must implement strategies to achieve goals, but first, they need to

raise awareness on the subject (Dodds and Butler, 2009). This is because tourism patterns and processes are dynamic responses to diverse sets of values (Hall and Risher, 2012).

Local government commitment alone is not sufficient to address the complexities associated with sustainable tourism. To tackle these challenges, sustainable tourism policies must consider different local economic development models, political institutional environments, ideological value systems, and power dynamics specific to particular regions (Bianchi, 2004). Recognizing and addressing these geographic nuances allows for a more personalized and effective approach to sustainable tourism, ensuring that policies align with the diverse contexts in which they are implemented.

According to UNEP (2012), local governments have become perhaps the primary stakeholders in sustainable tourism development. While international and national discussions strengthen local administrations, creating conditions to encourage private sector sustainability, destinations are often left to make choices on their own. Local governments take on most responsibilities because they are closer to the problems associated with tourism development (Aronsson, 2000) and are responsible for land planning and management tools (Dredge and Jenkins, 2016). Local administrators are the first to realize the issues that can affect a community regarding the tourism development of their territory. The main challenge at the local level is to integrate tourism planning with other land governance tools (Brokaj, 2014).

Various case studies conducted in different countries, including Germany, China, and the United Kingdom, highlight the importance of political-economic analysis, examining how different interventions can shape and influence sustainable tourism (Bramwell, 2011). Often, states prioritize economic benefits over building solid long-term plans for sustainable tourism development. Governments focus on concerns such as increasing tourism revenue, developing infrastructure, attracting investments, promoting and marketing tourism, diversifying tourism offerings, and formulating tax laws and regulations. These concerns are predominantly economy-driven and growth-oriented (Church and Coles, 2006). However, the market is inadequate in providing the necessary checks and balances for achieving sustainable tourism (Bianchi, 2004). The incongruence between priorities and overall objectives of sustainable tourism policies is the main challenge for achieving a harmonious balance (Yüksel, 2012). Weak governmental leadership further hinders the transition to sustainable tourism development (Andersen et al., 2018). Therefore, it is crucial for policymakers to understand the need to assess ecological and social impacts in addition to economic

benefits, adopting a holistic approach to tourism. Public authorities play a central role in guiding tourism development and should be the primary advocates for local communities, the natural environment, and addressing the growing economic disparities of those working in tourism. Investigating how the government effectively manages conflicts of interest among different stakeholders becomes fundamental for promoting sustainable tourism (Scheyvens, 2011). Constant collaboration and mutual support between national, provincial (state), and local government bodies, as well as the private sector, are necessary for promoting sustainable tourism development (Churugsa et al., 2007).

The dynamics between power and politics determine the trajectory to follow in tourism development. The solutions are either to continue with the current model of exploiting territories or to promote sustainability (Briassoulis, 2002). Despite a close connection between political choices and sustainable tourism (Kadt, 1979; Richter, 1989; Hall, 1994; Coles and Church, 2007), few studies have explicitly analysed the connecting factors. Mowforth and Munt (2009) may be the only ones who have detailed the power relations among global, national, and local actors and how they are central to tourism sustainability, as there is an "inherently political nature of tourism development" (2009: 296), and "governments have a central role and possess the potential power to control, plan, and direct the growth and development of tourism" (2009: 293).

Unfortunately, even when states, regional or local administrations formulate policies for sustainability in tourism, there is a gap with their actual implementation. This gap represents a significant challenge to achieving true sustainability: planners and managers of tourist destinations need to use the collective knowledge heritage of the destination, along with notions developed by researchers and governments, to ensure the feasibility and success of destination sustainability in the global market (Ruhanen, 2008). Unfortunately, governments and research, in their attempt to study practical tools for tourism management, have not always focused on sustainability. Faulker (2003), analysing tourism development in Australia, highlighted how the government preferred to fund research related to marketing at the expense of research in strategic planning, capable of finding a more balanced and rational approach to the development of the tourism industry. There are further issues that make the transition from research to practice regarding sustainable tourism difficult. According to Cooper et al. (2004), the main issues are threefold. First, the available data and statistical reports are tied to an economy based on the exploitation of physical resources (Jones, 2001). Second, tourism is a complex and multisectoral industry, making it difficult to have a clear view and coordinate progress in research across different fields. Finally,

there is a cultural difference between those generating research and knowledge and those in the best position to use it (Jenkins, 1999).

Despite various challenges related to sustainable tourism planning, the challenges of climate change and overtourism show that there is an urgent need to find new solutions (Xiao, 2006; Beesley and Cooper, 2007). However, since the 1990s, there has been an objective difficulty in transferring and disseminating knowledge in the scientific field to professionals and the tourism industry (Berry and Ladkin, 1997; Garrod and Fyall, 1998; Buckley, 2012). Many of the problems that planners and policymakers must face in pursuing sustainable tourism have been analysed by the World Tourism Organization in 2012. Specifically, the WTO highlights problems at all planning levels, from local to national. These land management and planning problems concerning tourism include waste production and management; biodiversity conservation; resource consumption (water, soil, etc.); noise levels; crowding; and landscape impact. These types of problems are challenging to solve for planners using traditional approaches (Hunter, 2002; McDonald, 2009; Fodness, 2017). This is because traditional planning methods use a linear cause-and-effect logic, but sustainability is characterized by multidisciplinary aspects, both quantitative and qualitative (Farrell and Twining-Ward, 2004). The development of alternative planning approaches, better able to meet sustainability-related needs, has been slow as it requires a radical change in the prevailing culture linked to the tourism economy. Planners must deal with an increasingly unpredictable and dynamically evolving territory. Moscardo (2013) has analysed the different tourism planning models present in the literature, highlighting that little has changed in the way planning processes are conceptualized and used in the various planning levels, from local to national, over the last thirty years. In particular, he highlighted the following issues:

- greater attention to specific local projects, rather than a global vision of tourism;
- insufficient attention to the negative impacts of tourism;
- a tendency to analyse the economic aspects of the tourism sector rather than the environmental and social aspects;
- limited consideration of how tourism might interact and influence other activities in a destination;
- market and tourist need and expectations are at the centre of planning, giving destination residents a limited, if not non-existent, role.



Many planning tools continue to focus on the needs of tourists and the market, ultimately aiming for the economic vitality of the tourism industry (Wall, 1997; McCool, 2000; Butler, 2003; Jamal et al., 2013). Sustainable tourism is typically translated into a set of guidelines and policies to address immediate and local environmental issues. The gap between scientific thinking about sustainable tourism and its practical implementation is also due to this lack of a broader spatial and temporal perspective (McCool, 2000; Butler, 2003). In 2011, Moscardo also highlighted the main phases in tourism planning processes. Planning is typically at the destination level and promoted by external entities in the local community, such as national or regional government agencies. Within this traditional process, there is always an assumption that there is some form of positive and desirable tourism, and it is never highlighted whether economic repercussions concern residents of the destination or external entities such as large hotel companies, restaurant chains, etc.

The second phase of planning involves an analysis of local resources interesting to the tourism sector: natural and architectural beauties, food and wine specialties, cultural events, etc. This information is then used to draft the plan and subsequently to identify actions to be developed and monitor. It is, therefore, a linear process where community participation is rarely foreseen. Usually, a presentation or public consultation of the plan is made after its drafting to seek approval from residents on decisions already made. In some virtuous cases, local community participation is requested even during the action identification phase, recognizing a role for residents in the choices of tourism development in the place they live. Some plans have sustainability among their objectives, but often this aspect is translated into greater attention to the environmental aspects of tourism (Hall 2013, Ruhanen, 2004) and not to a holistic approach capable of addressing the various aspects of sustainability.

The analysis of scientific literature on planning tools for sustainable tourism highlights the need for new methodologies that can combine theory and practice as well as social, economic, and environmental aspects. These methodologies must also promote public governance and place local communities at the centre of planning processes (Moscardo and Murphy, 2014).

### 2.1.1 Participation for Sustainable Tourism Planning

In the planning and development of tourism, the challenge is to act in a coordinated manner, as different stakeholders inevitably have conflicting interests. The private sector tends to adopt a market-oriented approach (based on tourist demands), while the public sector tends to adopt a supply-oriented approach (based on resources) for tourism development. There is a natural contradiction between the need to safeguard the destination and satisfy the economic growth desires of private companies and administrations (Font and Ahjem, 1999; Altinay, et al., 2007). To achieve sustainable tourism, all involved actors must become sustainable: national and local governments, the host community, tour operators, travel organizers, tourism service providers, etc.

To achieve this, these entities must understand the various benefits associated with sustainable tourism: tourism businesses, through a new ethical and environmental approach, can enhance their image, receive funding, and win projects related to ecological transition; local communities can improve their quality of life without losing their socio-cultural identity and harming the environment; tourists can have a high-quality experience in a vibrant and healthy environment; governments can continue to derive economic benefits from tourism without conflicts arising between visitors and residents.

For sustainable tourism strategies to become operational, planning tools need to be introduced. The lack of planning and the inability to distribute the benefits of tourism sustainably have contributed to the uncontrolled growth of tourism in many destinations (Gill, 2004). Planning policies and tools are essential to minimize the negative impacts of tourism economically, socially, and environmentally (Ruhanen, 2004) and to maximize the benefits for the well-being and quality of life of local communities (Tosun and Timothy, 2001).

These planning tools, to be effective, must recognize the centrality of the host community and its right to play a leading role in the sustainable and socially responsible tourism development of its territory (Simpson, 2001). "The participation of the local community in the tourism planning process at the destination is essential, since any tourism development should be aimed at improving the socio-cultural and economic conditions in the community" (Hatipoglu et al., 2016: 306). Furthermore, stakeholder involvement is essential for the benefits derived from tourism to be shared and redistributed, leading to an overall improvement in the community's quality of life.

Local community participation is also crucial for achieving the goals set by planning tools. Tourism planning is more likely to be supported by the local community if residents are involved in decision-making processes (Mak et al., 2017). Unfortunately, in some cases, the lack of knowledge and skills can be a significant obstacle to the success of participation processes, especially in rural areas (Tosun, 2000). In such cases, local administrations must take on the task of guiding and informing residents, providing them with the knowledge to express themselves. Only through information sharing can learning among stakeholders be promoted, facilitating their true involvement in the decision-making process (Ladkin and Bertramini, 2002; Cox and Wray, 2011).

Another challenge that often hinders the success of participatory tourism planning processes is the lack of a clear and shared long-term vision (Ladkin and Bertramini, 2002). The absence of a common vision among stakeholders is highlighted in several studies as a key challenge to participatory approaches (Sautter and Leisen, 1999). In many cases, some stakeholders tend to see only the positive economic impacts of tourism, while others focus on the socio-cultural impacts on local populations. These problems can be overcome through effective public management of participatory processes and the involvement of experts capable of using the most suitable participatory tools for the specific case (Chess and Purcell, 1999).

According to Yasong and Roberte (2008), over the past 30 years, scholars have emphasized the close link between sustainable tourism and the involvement of local communities in defining tourism policies and plans. Sustainability requires a change in our behaviours and the current tourist/economic model. This change is easier to implement with the widespread involvement of all parties affected by the tourism development of a destination. Participation must lead to a modification of both personal habits and collective behaviours, leading to a shared environmental awareness (Mobley et al., 2010).

While some consider broad participation an idealistic concept with few possibilities of effective implementation (Landorf, 2009), the significant fragmentation of the tourism industry highlights the necessity of broad participatory processes to create effective collaboration in planning processes aiming for sector sustainability (Welford et al., 1999; Aas et al., 2005). In developing countries, tourism planning is primarily centralized (with most decisions made by the government rather than involving all stakeholders in tourism). In contrast, planning appears to be more shared in developed countries (Swarbrooke, 1999; Altinay et al., 2007). Leaving the supervision of planning to host communities ensures the retention of tourism revenues in local communities, thereby

increasing the standard of living and encouraging and motivating local groups to direct cultural exchange to suit their needs and to use means and methods to conserve and protect the environment. The engagement of various stakeholders throughout the decision-making process is often considered essential for achieving a sense of collective responsibility for the sustainable development of any resource. Local stakeholder groups, in particular, must have the opportunity to reduce the intergenerational impact of resource use. At the same time, tourism businesses must understand the economic, environmental, and social needs of a community and how these can be integrated into broader regional and national systems (Milne and Ateljevic, 2001).

According to Angelevska-Najdeska and Rakicevik (2012), the process of planning sustainable tourism development cannot be non-participatory and involves several phases, namely:

- preparation: formulation of guidelines, selection of the research team, and the formation of committees for controlling and organizing activities during the study preparation;
- definition of objectives: identification, together with the community, local administration, and local businesses, of the tourist objectives of a destination;
- formulation of plans and policies: Formulation of recommendations and identification of actions to achieve objectives;
- monitoring.

Angelevska-Najdeska and Rakicevik (2012) also recommend preparing alternative development scenarios within the plans. Each scenario can contribute differently to achieving objectives. Based on the contribution of each alternative, the best policy is selected. To improve participation, Risteskia et al. (2012) propose establishing local and regional tourism councils composed of all local stakeholders. These councils become responsible for drafting tourism plans, with particular attention to the economic/employment impacts of tourism at the local level and the promotion of a new culture linked to sustainability.

The UNEP (2005) also agrees that the development of policies and plans for sustainable tourism must follow a participatory process with all stakeholders to foster broader adherence to identified strategies. It is also essential for stakeholders to commit to achieving long-term goals outlined in planning tools. Sustainable development strategies must include three distinct phases (Fig. 9): analysis of conditions, problems, and opportunities; identification of objectives and strategic choices; development of

policies and action plans. Stakeholders are involved in each of the three phases. Specifically, during the analysis phase, "various consultation and communication techniques can be used, including open meetings, surveys, stakeholder workshops and web-based consultation, etc." (UNEP, 2005: 60). In the second phase, local governments, together with stakeholders, must share a vision and define strategic objectives for the tourism development of the destination. Finally, additional consultation and the creation of working groups can be useful for developing policies and action plans. These plans must specify the necessary resources, timelines, and include monitoring of identified actions.

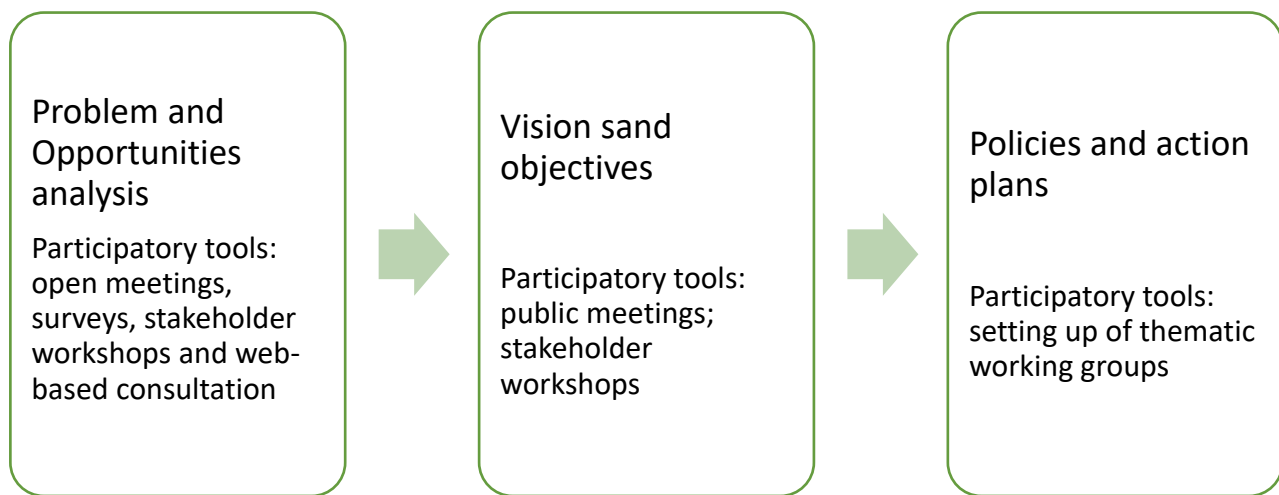


Fig. 9: Participatory tools for the definition of plans and policies for sustainable tourism.  
Source: Reprocessed from UNEP, 2005.

In general, to achieve active participation, it is necessary to undergo a careful phase of understanding and organization, during which the various participatory methods available need to be clarified (Glicken, 2000; Voinov, 2018). For a Sustainable Tourism Plan, it is important to consider participatory processes in all the different phases of its development, from the cognitive/analytical phase to the pacifying/programmatic one (Candia, Pirlone, Spadaro, 2021).

## 2.1.2 Best Practices in Sustainable Tourism Planning Worldwide

In the last 20 years, examples of tourism planning exist on every continent: from Jamaica to Australia, passing through Indonesia, Rwanda, England, and the Mediterranean basin. Naturally, there are significant differences among them. Dealing with cultural tourism in a major capital is indeed quite different from managing beach tourism in a crowded and extensive coastal area, or perhaps in a small countryside location just a few kilometers away from a UNESCO heritage site.

For this reason, the action strategies of tourism plans increasingly focus on the territorial dimension. According to this approach, the design and implementation of political measures for tourism plans require local administrations to understand the specific needs of their destination (Lozano-Oyola et al., 2012). In any case, the policy of sustainable development, when applied to territorial planning and tourism, must be a synthesis of various policies in force in the territories (Nowacki et al., 2017), including waste management, land use, landscape protection, etc. The local level is crucial because it is closer to the host communities. According to Zimmermann (2018), the transition to sustainable tourism is based on the involvement of the local population, its identity, needs, and capabilities.

Below are examples from around the world of local planning tools to promote sustainable tourism (Tab.4). Understanding the tourism planning process is crucial to supporting forms of tourism that truly bring well-being to host communities without destroying destinations (Hall and Page, 2002). In the literature on tourism policies and strategies, many publications focus on developing countries and analyze solutions designed to improve the quality of life for residents (Andriotis, 2001; Dieke, 2003; Roe et al., 2004).

This is the case in Jamaica, Botswana, and the Caribbean islands, but the examples below also include how to sustainably manage UNESCO sites in England and Spain (Altamira); how to combine tourism with environmental protection in the Cairngorms National Park in Scotland, the Bob Marshal Reserve in Montana, or the Costa Brava; virtuous experiences of regional planning in Australia and Canada that have placed participation and sustainability at the center of planning; tourism plans in cities and historic centers such as Amsterdam, and Berlin (Tab. 4).

Where	year	type of case study	Strengths	reference
<b>Australia</b> Daylesford e Hepburn Springs and Byron Shire	2007 - 2008	Regional plan	Stakeholder inclusion and participation	Wray, 2012
<b>Barbados</b>	1998 - 2000	National strategy	Training for local administrations and green certifications for companies	Mycoo, 2006
<b>Botswana</b>	2002	Natural park	Community based tourism	Stone, 2015
<b>Canada</b> Quebec region	2021	Regional plan	First regional plan for sustainable and responsible tourism	Gouvernement du Québec, 2021
<b>England</b> UNESCO sites	2009	Historical and natural UNESCO site	Greater attention to economic, social and environmental sustainability in the management plans of UNESCO sites	Landorf, 2009
<b>German</b> Belin	2018	City tourism	city-compatible, and socially equitable tourism	Grube, 2023.
<b>Jamaica</b>	2007	National strategy	Knowledge of the possibilities of sustainable tourism in business and public administration	Altinay et al., 2007
<b>Scotland</b> Cairngorms Park	2006	Natural park	Self-responsibility and ethics of visitors and host community	Blackstock, Kirsty et al., 200
<b>Spain</b> Calvia	1990	Seaside destination	Tourism plan to improve on quality of supply, regeneration and urban greening	Dodds, 2007
<b>Spain</b> Altamira	2017	UNESCO site	Analysis of the social value of heritage and involvement of tourists in sustainable site management choices	Eva Parga and Alonso González, 2019
<b>The Netherlands</b> Amsterdam	2020	City tourism	Tourism plan aimed at reducing conflicts between inhabitants and visitors, increasing the quality of life and establishing a maximum number of tourists	Nientied and Toto, 2022
<b>USA</b> Bob Marshall Wilderness Area	1982	Natural park	Planning strategy based on Limits of Acceptable Change (LAC)	Eagles, McCool and Haynes, 2002

Tab. 4: Strengths of strategies and plans to promote tourism sustainability Source: author.

Australia,

Daylesford e Hepburn Springs (Victoria) e Byron Shire (New South Wales).

References: Wray, 2012.

In Australia, between 2007 and 2008, a strategic tourism planning process was initiated in the regions of Daylesford and Hepburn Springs (Victoria) and Byron Shire (New South Wales). Inclusion, participation, and learning were the guiding principles behind the new planning tools. The participation process brought together administrators, businesses in the tourism sector, and local communities using various engagement methods, including consultation seminars, gathering suggestions on the plan's website, and citizen juries.

Participation began before the drafting of the plan to establish a shared vision and common goals, and it continued during the implementation phase and the final communication of the plan. The participation journey was crucial for defining a shared vision. The two Australian regions committed to following this path for the next ten years with “appropriate, balanced, sustainable, inclusive and visionary policies which ensure social, economic and environmental benefits for the community and offer best practice experiences for visitors” (Wray et al., 2010: 41).

In August 2008, the definitive version of the plan was unveiled, garnering extensive approval from both the industry and the community. The widespread acceptance of this potentially contentious plan can be largely attributed to the comprehensive and authentic consultation process integrated into every stage of the strategic planning process.

Barbados (Caribbean)

References: Mycoo, 2006

In Barbados, a Caribbean island, two initiatives were undertaken in the late 1990s that successfully steered local policy towards concrete actions to support sustainable tourism. The first initiative is linked to a training course initiated by UNEP for local administrations on policies for the management of coastal resources and ecosystems in tourist areas. Specifically, seven training modules were introduced on key topics such as water management, waste management, coastal areas affected by tourist flows, and the design of accommodation facilities. In addition to the course, administrations received a manual to assist them in the development of local plans for the management and protection of the territory. According to Swarbrooke (1999), it is the lack of



knowledge and planning tools that drives governments to adopt self-regulation policies for tourism through the market.

The second initiative involves the implementation of certification for tourism industries. It is a voluntary procedure that provides ISO 14001 assurance regarding compliance with standards for waste reduction and recycling, energy efficiency, sustainable planning, and the use of anthropic and natural territory. Certification does not always have a positive impact in developing countries. The difficulty of the procedures and the associated costs deter small local businesses and favor large foreign chains (Harrison, 2001). Therefore, the certification process must be accompanied by specific national assistance. In Barbados, the process has been virtuous and has led to the green certification of over 50 accommodation facilities.

Botswana, Chobe park

References: Stone, 2015.

The management of tourism in protected areas is particularly delicate, and effective collaboration among stakeholders—park authorities, local communities, tourist enterprises, and the government—is crucial (Islam et al., 2018). Achieving a shared vision of goals through broad participation in decision-making processes is essential. Preserving biodiversity and improving the quality of life for residents should not be seen as conflicting objectives. It is necessary to find a common ground between natural heritage and economic development (Karanth & DeFries, 2010).

The development of the Chobe National Park in Botswana initially led to conflicts between government conservation agencies and the local population regarding land use. The local community expressed opposition to the park through incidents such as causing fires and engaging in illegal hunting. In response to this hostility, the government introduced a Wildlife Management Area (WMA) in 1986, and since 1990, the local community has been included in decision-making processes related to natural resource use.

These measures alleviated conflicts but did not fully achieve their goal. Therefore, in 1992, the Chobe Enclave Conservation Trust (CECT) was established, reaching a definitive agreement on wildlife management through increased involvement of the local population. Since 2002, the CECT has focused on ecotourism through community-based tourism and natural resource management. Guidelines and a management plan

were developed, improving the quality of life for residents by increasing their income while simultaneously protecting the environment.

Through the CECT, the government allocates wildlife quotas to the community, which can decide whether to use them for hunting or safari activities. To participate in the decision-making process, communities had to establish community-based organizations guided by a constitution. This process was led by the Chobe Wildlife Foundation and the Kalahari Conservation Society, providing communities with human and economic capital. It took a considerable amount of time (about two years) to involve local communities in tourism development due to cultural resistance to economic forms different from traditional ones. Thanks to on-site experts, ongoing dialogue, and training programs, the first forms of community tourism were initiated. This underscores the importance of training and management through experienced individuals in all participation processes.

Canada, Quebec region

References: Gouvernement du Québec, 2021

As of 2021, Quebec has a Plan for Responsible and Sustainable Tourism. This plan is based on five strategic axes:

- Support the transition to a circular economy;
- Promote more ecological travel;
- Develop natural and adventure tourism with an ecotourism-oriented approach;
- Engage the local community in enhancing the common heritage to obtain economic and social benefits through tourism and educate responsible tourists aware of their impact on the visited territory;
- Highlight businesses capable of innovating and implementing exemplary practices in the field of sustainable tourism;

Specific objectives, actions, and budgets are identified for each axis. For example, for Axis 3 related to ecotourism development, a budget of 1.5 million is allocated, with two strategic objectives and four actions. The first objective aims to "strengthen the practice of ecotourism in Quebec," and the second aims to "value and preserve nature and its biodiversity through tourism in consultation with host communities and indigenous populations."

The four actions, on the other hand, aim to:

- raise public awareness about ecotourism;

- establish partnerships with key stakeholders to enhance natural environments, including protected areas, for tourism purposes;
- document and publicize the economic potential of natural environments from a tourism perspective;
- support the conservation of natural areas for tourism purposes.

Finally, the plan includes an implementation and monitoring phase for each of the identified axes.

## England

References: Landorf, 2009.

This study examines the management plans of six UNESCO sites in the United Kingdom. Being a World Heritage Site (WHS) is not necessarily tied to tourism growth. However, all WHS must develop and implement a management plan to mitigate the impacts of tourism and support the site's importance (Landorf, 2009). There is, however, a gap between academic theory and its practical application. Managers of historic sites have a limited understanding of tourist behavior and how to strategically manage it (Beeho & Prentice, 1997; Garrod & Fyall, 2000; Malcolm-Davies, 2004; Watson & McCracken, 2002) (Landorf, 2009).

An analysis of six UNESCO sites in the UK reviews management plans considered exemplary in the field (Rodwell, 2002): Blaenavon Industrial Landscape, Derwent Valley Mills, Ironbridge Gorge, New Lanark and Saltaire, Cornwall and West Devon Mining Landscape. The plans only partially meet the criteria of sustainable planning, including situation analysis, strategic orientation, vision and community values, and stakeholder participation. This raises concerns, as these management plans are expected to serve as models for developing plans at other sites.

The results suggest that the sites are not actively planning and managing the dimensions of economic and social sustainability in the same way they are addressing environmental sustainability. A significant factor is the level of stakeholder participation: while the six management plans make a significant effort to include major landowners, government, and non-governmental agencies in both the planning process and ongoing management at each site, there is a noticeable lack of public consultation. Any effort towards the population is made for informational purposes or to seek public opinion.

Germany, Berlin

References: Grube, 2023.

Berlin's policymakers have established ambitious objectives for the city's future tourism. Outlined in the coalition agreement among the dominant political parties within the Berlin Senate government for the legislative period 2016-2021, the aim is to strategically position Berlin for sustainable tourism that aligns with the city's long-term development goals.

Since 1990, the evolution of Berlin's tourism sector stands as a remarkable success story, catapulting the German capital into the upper echelons of global city tourism. The infusion of €11.6 billion into the city's economy and the creation of 235,000 full-time jobs underscore tourism's pivotal role in Berlin's economic landscape. Beyond mere statistics, tourism has emerged as a driving force shaping the city's identity and cultural fabric, exerting significant influence on urban life. In a quantitative sense, tourism has solidified its status as a cornerstone of Berlin's economy, shaping the city's landscape and cultural ethos. Its impact is so profound that the sector now holds strategic importance for the overall development and the residents' quality of life. However, the ongoing global evolution of tourism has thrust Berlin's tourism sector into a dynamic state of flux, necessitating a proactive response to secure its future.

Recognizing these shifting dynamics, the Berlin Senate is attuned to the signs of the times and is implementing measures to address the evolving global and local landscape. Through this tourism plan, the Senate is establishing the necessary conditions for sustainable, city-compatible, and socially equitable tourism. The rationale is rooted in the belief that the city is a shared resource, belonging to all who inhabit it.

This comprehensive plan also serves as a roadmap, steering towards long-term, measured growth in tourism. Striking a balance between continuity and change, it commits to maintaining brand positioning and marketing for Berlin's core target groups while embracing change in the form of sustainable and city-compatible policies. These principles serve as the bedrock, ensuring enduring acceptance and resource preservation. It is crucial to note that this Tourism Plan is not a conventional market-oriented strategy; instead, it hones in on the prerequisites for city-compatible tourism in Berlin. By prioritizing sustainability and aligning with the city's unique character, this plan charts a course for a tourism future that is not just economically robust but also harmonious with the city's identity and the well-being of its inhabitants.

## Jamaica

References: Altinay et al., 2007.

Promoting sustainable tourism development in Jamaica is not straightforward. Research has investigated the obstacles, focusing on three main themes: financial constraints, social instability, and a lack of coordinated tourism planning. It emerged that various initiatives implemented by both the public and private sectors lacked management, cohesion, and, in some cases, collaboration. To achieve sustainability in a developing country, effective financial management across all industries and a serious focus on shared social sustainability by both the public and private sectors are necessary.

To achieve these results, an online survey containing 16 open and closed questions was sent to 540 Jamaican managers and executives. Ninety-nine surveys were completed and used for analysis. Objectives related to heritage-based tourism and the improvement of infrastructure and accessibility were perceived as successfully pursued by the Jamaican government, but weaknesses surfaced in the implementation and development of community-based and environmentally sustainable tourism.

The results may not be generalizable across all socio-economic strata as survey participants were limited to educated professionals. However, their inclusion—or lack thereof—in decisions that could contribute to achieving the plan's objectives suggests implementation deficiencies that may be valid across all social strata and destinations.

Scotland, Parco nazionale di Cairngorms.

References: Blackstock, Kirsty L., et al., 2008.

In Scotland, in the Cairngorms National Park, great attention is given to the ethical and moral responsibility of those involved in tourism activities. Long-term change is more likely to occur by influencing people's values and attitudes rather than through prohibitions or incentives that do not alter their predispositions. Responsible tourism is thus considered the best choice in the debate on sustainable tourism. Responsibility stems from an ethical commitment to human rights and social well-being (Hall & Brown, 2006), rather than from an instrumental desire for economic growth.

Since sustainable tourism is not automatically responsible tourism, using the latter as a goal is useful for deconstructing many claims about tourism sustainability and the indicators designed to monitor it. While stakeholder participation, concern for impacts, and the distribution of benefits are part of sustainable tourism rhetoric, the normative

emphasis of responsible tourism has helped highlight these particular issues in the face of economic or environmental discourses: indicators of sustainable tourism could benefit from reflecting on the principles of responsible tourism.

Encouraging residents to actively participate in decisions and access the economic, cultural, and social benefits of tourism is essential for responsible tourism. However, this principle must also recognize the inequalities that exist within local communities (see Medina, 2005, on contested debates about 'local' and 'benefits'). Applying the principles of responsible tourism requires an understanding of diverse local communities with potential conflicts and the recognition of a variety of tourists. Accessibility to the park, for example, extends beyond physical challenges to economic or social barriers. Although respect is not tied to income or wealth, a lack of income and transportation can limit who can become a responsible tourist.

Spain, Altamira

References: Eva Parga and Alonso González, 2019

Altamira is an interesting case as it has drawn attention to the issue of the sustainability of tourism in UNESCO sites in the medium and long term (Drost, 1996). The Altamira Cave has historically been recognized as the Sistine Chapel of Paleolithic Art or the Pinnacle of Paleolithic Art because it preserves one of the oldest and most realistic collections of prehistoric paintings (Saiz-Jimenez et al., 2011).

UNESCO declared this site a World Heritage Site (WHS) in 1985. The Altamira complex, located in the Cantabria region in northern Spain, consists of a museum, the cave, and a scale reproduction of the cave, the so-called neo-cave. Since 1902, when the prehistoric origin of the Altamira paintings was scientifically confirmed, Altamira has become one of the main places in the world to learn about the origins of humanity. A place so unique from a historical and archaeological perspective attracts an average of 250,000 visitors annually, making it the second most visited public museum in Spain (Parga Dans and Alonso González, 2017).

With some studies on Altamira, attempts have been made to connect sustainable tourism to heritage management, considering the social value dimension of cultural heritage. For the first time in Spain and at such a relevant site, the study has incorporated a social value dimension to understand the conservation status of the Altamira WHS as a basis for the development of sustainable tourism and management plans. In particular, a questionnaire was distributed among visitors, and it was found that even when the caves were not accessible for conservation reasons, people were

aware of the importance of preserving the site (over 90%) and were still happy to visit the reproductions of the drawings in the museum. The questionnaire led to the definition of four types of social value: existential, economic, aesthetic, and legacy. Altamira has existential value for society because it represents evidence of the origin of human history; this value exists even without visiting the cave. Economic value is, of course, connected to the site's ability to generate revenue. Aesthetic value is linked to the beauty of its paintings. In this case, visitors in the questionnaires were satisfied even just seeing the life-size reproduction of the Neo Cave created in 2001. This is because the community shares the last value, legacy, i.e., the need to preserve the paintings for future generations.

This value-oriented perspective implies a conception of heritage that goes beyond the site itself but considers it based on the merit attributed to it by society. Therefore, the site's tourism management plan considers its physical conservation and/or the relationships that the site has with the community. The goal was to understand why Altamira is important, for whom and when, and how certain values can legitimize sustainable tourism management.

Spain, Calvia

References: Dodds, 2007

Calvia, a town in Mallorca in the Balearic Islands, Spain, is one of the most popular maritime tourist destinations in the Mediterranean. However, it is also an example of a mass tourist destination that, due to tourist pressure, experienced economic, social, and environmental decline. This occurred in the late 1980s, but thanks to sustainable tourism policies, it managed to regain international success (Dodds, 2007). The decrease in the number of tourists in Calvia and the Balearic Islands in the 1990s prompted institutions to make efforts to address the problems of degradation on the island, the deterioration of social systems and structures, and the threat of further tourism decline. The Balearic Autonomous Community, in cooperation with the municipalities, played a key role in these efforts. In 1990, the Calvia Plan for tourism excellence was developed, which included the recovery of open spaces and attempts to offset the seasonal nature of tourism that had negative employment repercussions. Norms for tourism quality were then introduced, along with a plan to modernize hotels and the requirement for newly constructed hotels to have a certain amount of green space per bed.

Calvia was able to adopt and implement many initiatives without the need for collaboration from the higher government. The town received numerous awards that internationally recognized its efforts: the 1997 European Union Sustainable City Award, the Green Globe Award (in 1998), the award for the Ecological Municipality in Spain in 1999, and the UNEP Sustainable Summit Business Award for sustainable development partnerships in 2002.

The Netherlands, Amsterdam.

References: Nientied and Toto, 2022

In numerous European urban centres, particularly those grappling with challenges linked to overtourism as highlighted by Postma et al. (2020), stakeholders including citizens, local authorities, and researchers collectively reached a consensus in 2020. This agreement signified the need for a 'reset,' advocating for a reevaluation of the values underlying future city tourism practices. Consequently, there was a call for the development of innovative and sustainable tourism policies, as highlighted by Nientied and Shutina (2020).

Amsterdam, a global tourist hotspot, faced issues of overtourism, prompting a reevaluation of its tourism landscape. In 2020, with a notable absence of tourists, citizens had a unique opportunity to reclaim their urban space. This experience led to a strategic document, 'Redesigning the Visitor Economy Amsterdam, Vision 2025,' developed through extensive consultations. Aligned with the triple bottom line, it emphasizes resident quality of life, a better visitor experience, and sustainable growth. The vision tackles social, ecological, and economic dimensions, with key elements such as attracting culturally interested visitors, using data to guide behaviour, promoting responsible business, involving neighbourhoods in decision-making, managing nightlife, fostering a liveable city, and redesigning public spaces. Spatial planning interventions propose measures like restricting private holiday rentals, diversifying destinations, implementing tourism business planning, creating tools for crowd management, developing green spaces, and investing in sustainable transport.

The 'Balanced Tourism' regulation, a response to citizen demands, seeks to set a maximum limit on tourists, aligning with the broader vision. These initiatives represent a proactive approach to address tourism challenges, signalling a significant move towards harmonious coexistence for residents and visitors in Amsterdam. The 2025 tourism vision garnered positive reception from the majority of stakeholders, although certain individuals expressed reservations about its practical execution.



Following an extensive debate at the local council, the optimal limit for tourist numbers was deliberated upon. It was ultimately decided that the maximum should align with the 2018 tourism figures, which included 20-million-day visitors. A precautionary system was established to signal potential breaches of this limit. Nevertheless, there remains uncertainty about the specific measures the local government can employ to uphold the 2018 numbers, as it lacks the authority to shutter hotels or restrict visitors at the municipal boundaries.

USA, Bob Marshall Wilderness Area

References: Eagles, McCool and Haynes, 2002

The Bob Marshall Wilderness Area, a Category Ib protected wilderness in north central Montana, covers 600,000 hectares of un-roared temperate forest. Managed by the US Forest Service under the 1964 Wilderness Act, it attracts 25,000 visitors annually, mainly from June to November. A planning effort in 1982, employing the Limits of Acceptable Change (LAC) process, engaged the public, scientists, and managers over five years. The LAC-focused process sought to determine acceptable levels of change in wilderness, biophysical, and social conditions. Public participation involved a taskforce that addressed a range of values associated with the wilderness. The resulting plan has three key features:

- Establishment of four opportunity classes (zones) allowing trade-offs between recreation and human-induced impacts.
- Identification of indicator variables with quantifiable standards to monitor and assess impact levels in each zone.
- Specification of management actions in order of social acceptability, encouraging the use of the least intrusive measures first.

The zones serve as a framework for managing human-induced impacts, each with defined acceptable conditions. Opportunity classes range from Class I (most pristine) to Class 4 (least pristine), providing a continuum for permitted impact levels. This comprehensive approach ensures effective impact control while maintaining social and political acceptability.

### 2.1.3 State of the art of tourism planning in the Mediterranean region

The Mediterranean Region is the principal tourist destination in the world. For this reason, this research project focus on this area to analyse in deep the main policies and plans for tourism already realized. The Mediterranean region boasts distinctive and captivating natural ecosystems, coupled with a rich tapestry of cultural and historical treasures. Its favourable and temperate climate, combined with well-connected and populated locales, renders it an alluring haven for travellers. Prior to the onset of the pandemic in 2019, the Mediterranean region was welcoming an impressive influx of over 400 million international tourist arrivals (ITAs) annually, solidifying its status as one of the globe's premier destinations (Tab. 5).

Four of the most visited countries in the world are in the Mediterranean. France received more visitors than any other country in the world. Following France, in the top 10 international tourism destinations list, Spain holds the number two, Italy the number five and Turkey the number eight (UNWTO, 2020). Greece also is very popular, it is not included in the top ten charts, but annually welcomes more than 31,3 million visitors (UNWTO, 2020). Tourism in the Mediterranean region is predominantly a coastal phenomenon, both because it is concentrated along the coast and because it is closely tied to the sea and the beach season (Battigelli 2007; Jenner, Smith 1993; Plan Bleu 2016). The main places visited away from the coast are the art cities. The more incapable the territorial context is in promoting a process of tourism development and planning, the more tourism tends to be speculative and exogenous, meaning it is managed by entities external to the territorial context that have no interest in the local community (Pollice and Urso 2013). In the last five years, these Countries have drawn up strategies or plans for tourism development and management (Tab. 6).

INTERNATIONAL TOURIST ARRIVALS (million)					
	FRANCE	SPAIN	ITALY	TURKEY	GREECE
2010	77,64	52,67	43,63	31,36	15,01
2018	89,40	82,81	61,57	45,77	30,12
2019	90 ,10	83,51	64,5	51,19	31,35
Post-Covid					
2022	66,6	71	50,52	44,6	27,80

Tab. 5: International tourist arrivals in the main tourist Countries of the Mediterranean Region.  
Source: Reprocessed from UNWTO data.

These policies are based on sustainability, diversification of tourism products, digital innovation, tourism coordination, quality, seasonality, training and employment, investments and incentives. Despite these common goals, each State has established its own priorities for action.

FRANCE	SPAIN	ITALY	TURKEY	GREECE
Destination France November 2021 (ten-year plan)	Plan del Turismo Español Horizonte 2020 and Spain's Sustainable Tourism Strategy 2030	National Strategic Plan for Tourism 2017-2022 (Piano Strategico del Turismo, PST)	Tourism strategy of Turkey 2023 (which replaces the former 2015-19 Strategic Plan of the Ministry of Culture and Tourism)	2021-2030 Tourism Plan (which replace the former) National Strategic Plan for Tourism 2014-20.

Tab. 6: National policies and plans for tourism management and development. Source: author.

The French plan aims to make France the world's first sustainable destination accelerating the ecological transition of SMEs (restaurants and tourist accommodation in rural and peri-urban areas) and support the emergence of new forms of tourism (slow tourism, agritourism, ecotourism, bike tourism...). The French plan also focuses heavily on tourism-related professions through training paths for young people and the unemployed. The plan also seeks to overcome some problems related to the seasonality of tourism jobs that generates precariousness and wage discontinuity. In particular, the plan includes reception and orientation desks for workers to promote recruitment and retention of seasonal workers (distribution of job offers, accommodation and mobility solutions).

Greece and Italy stated their intentions to focus on actions to enhance tourism mobility. With this in mind, in Italy the Ministry of Culture and Tourism and the Ministry of Infrastructure and Transport signed the "Special Plan for Tourism Mobility" setting common goals with operators and stakeholders to improve mobility for tourism. For France and Italy, accessibility is another key factor to competitiveness in tourism; the tourism offer needs to develop becoming accessible to everybody. Among the priorities of the Spanish and Greek plan for tourism there is to encourage research related to tourism: collection of data, collaboration between public authorities and universities, establishment of research centres on tourism... (Tab. 7).

Spain is the only one to have the word sustainability already in the title: *Estrategia de Turismo Sostenible de España 2030*. Spain wants to maintain its position as a world

leader in tourism and implement it in order to contribute through tourism to building a better, more prosperous, egalitarian and inclusive society, in line with the Sustainable Development Goals of the United Nations. In addition to the strategy for sustainable tourism, Spain also has a Spanish Tourism Plan. In this document, the part dedicated to participation is very interesting. The objective has been to promote reflection on the future of tourism in Spain and to establish joint priorities, goals and objectives. The participation process involved: experts, companies and professionals in the sector, public authorities, citizens and tourists. Tourists and citizens were involved through a questionnaire. The Italian plan also talks about participation, but only of stakeholders in the sector. In addition, in the Italian Plan, participation is among the objectives and not, as with Spain, an element in the construction of the plan itself. The Spanish plan and the Greek plan are the only ones to use a SWOT-type analysis capable of highlighting the strengths, weaknesses, opportunities and threats of the current tourism system. Greece's Plan is then the only one to set individual targets for each of the country's regions, while the other National Plans set global targets that apply everywhere.

Turkey's plan has led to the creation of a specific site for those who want to organise a sustainable trip to the country: (<https://sustainable.goturkiye.com>) where you can choose where to sleep, eat and how to travel in a green way. The main natural and cultural sites and festivals focusing on sustainability are also highlighted, such as the Sustainable Living Film Festival and the Bozcaada International Festival of Ecological Documentary. Finally, there is a section dedicated to eco-certificates and ecolabels in the country.

Regarding the structure of the plan, four out of five nations share three common elements: analysis of the context (global, local, current trends); plan vision; objectives/strategies. Each plan then has its specificities (Tab. 7 and Tab. 8). As already mentioned, the Spanish plan has envisaged a participatory process for the drafting and implementation of the plan. Turkey, like Spain, has dedicated a chapter to the implementation of the plan's objectives. Specifically, Turkey has identified the actors responsible for achieving the objectives outlined in the plan, the necessary funding, and the required timelines. Turkey has also planned a monitoring and evaluation process for the actions through a series of predefined indicators. Every public entity involved in the plan implementation must populate a national database with the achieved results.

FRANCE	SPAIN	ITALY	TURKEY	GREECE
Context analysis	Context analysis	Context analysis		Context analysis
Vision	Vision	Vision	Vision	Vision
	Participatory process			
Objectives	Objectives and interventions	Objectives and interventions	Objectives	Objectives
	Implementation		Implementation	
			Monitoring/evaluation	

Tab. 7: National policies and plans for tourism management and development. Source: author.

	FRANCE	SPAIN	ITALY	TURKEY	GREECE
Sustainability	X	X	X	X	X
Participation		X	X		
Quality	X	X	X	X	X
Diversification of products	X	X	X	X	X
Promotion in international markets		X	X	X	X
public-private co-responsibility		X	X	X	
Digitalisation	X	X	X	X	X
Addressing seasonality		X	X	X	X
SWOT analysis		X			X
Tourist Mobility			X		X
Coordination of the tourist offer	X	X	X	X	X
Market/tourist-oriented approach			X	X	
Investments and incentives	X	X	X	X	X
Encouraging research		X			X
Training and employment	X	X	X	X	X
Accessibility	X		X		
Carrying capacity					

Tab. 8: Main goals of the Plans for tourism in France, Spain, Italy, Turkey and Greece. Source: author.

Besides these national policies, several layers of regional and local government share the responsibility of boosting tourism. Regions are responsible for the promotion and regulation of tourism within their own territories. Local entities (provinces, metropolitan areas and municipalities) take care of promotion and dissemination of information supporting their own tourism interests. The mechanism established between the State, the Regions and the local authorities is vital for a proper cooperation to enhance competitiveness in the tourism sector. Even though in France and Spain there are several examples of Plans at the municipal, metropolitan or departmental level, in Italy only the city of Venice has its own policy instrument. The lack of the local level penalizes many Italian destinations that cannot rely on their own strategic plan for a better coordination with the regional and national instruments. In Spain, besides Barcelona, the first tourist destination of the country, many other cities have their own strategic tourism plan (Malaga, Cordoba, Valencia, Zaragoza...). In France, only the main metropolitan areas adopted a Strategic Plan for tourism development (Paris and Lyon), but there are several Plans made by departmental authorities or union of municipalities. These Plans work on a smaller scale than the regional ones and try to meet the needs of tourists while respecting the interests of the residents. Tourism is an engine of growth, to create quality jobs, business and local development opportunities, but local policies are necessary to mitigate the negative impacts on local communities, and better spread the benefits to all people and territories. "In the absence of destination strategy that defines the desired positioning (in relation to the wealth of attractions, the resources available, the desired target of customers and the interests of community), the supply tends to focus on a few things already known to the public, with negative effects on accessibility and quality of the experience of visiting" (Candia et al., 2019).

#### **2.1.4 Policies to regulate short rental**

In the world of tourism, a theme that has taken centre stage is the policies for managing short-term apartment rentals. This mode of accommodation has grown disproportionately, especially in the historical centres of cities, where there has been an increase in affordable lodging options. While there have been positive economic consequences for travellers and those who own guest rooms or unused houses, there have been various negative consequences for the communities where this practice occurs (Gold, 2019).

Platforms facilitating access to this market, notably Airbnb, have impacted the real estate market in a geographically uneven manner, creating a new form of rent disparity in culturally desirable neighbourhoods internationally recognized (Wachsmuth and Weisler, 2018). The most interesting and well-served areas by public transportation were the first to be involved in the phenomenon of short-term and tourist rentals, forcing residents to move to more inconvenient and distant areas of the cities. In certain neighbourhoods, it has become nearly impossible to find a house for long-term rent, and prices have skyrocketed. This problem, along with the excessive crowding due to the presence of tourists, has contributed to conflicts between residents and visitors. Demonstrations and discontent have not only occurred in major European tourist cities such as Barcelona or Amsterdam but also in smaller cities less historically involved in tourism phenomena, such as Bologna, where in May 2023, students protested because there are 4,000 short-term rental accommodations on Airbnb compared to the 3,600 dormitory beds in the entire Emilia-Romagna region. This protest has been ongoing since 2018 when the Lubo Collective (Free University of Bologna) began denouncing the lack of housing availability for students and calling for the regulation of short-term rental phenomena.

To curb the progressive gentrification of affected areas and the displacement of residents, many European cities/tourist destinations have begun to introduce limitations on the spread of short-term rentals. Pioneers in Europe were Amsterdam and Vienna in 2013, followed by London in 2014. Italy - where the highest density of housing registered on Airbnb is mainly concentrated on the coasts and in the most touristic cities such as Rome, Florence, Milan, and Venice - lags significantly in this regard. Not only that, Italian cities are now the only ones in Europe that have not introduced regulations and limitations on the conversion of residential housing into short-term rentals for tourists (Fig.10). The risk is not being able to control these dynamics, leaving the control of this phenomenon to the private speculation of platforms and professional actors who now govern the short-term rental market (Bei, Celata, 2023).

However, regulating Airbnb and short-term rentals is possible and has a significant impact in mitigating the negative effects caused by this phenomenon. The situation in the hotel and rental market has changed dramatically since 2008 when Airbnb began promoting its platform with the slogan "live like a local" and proposing sustainable tourism, which in its initial intentions would have enriched the local community and travellers. At that historical moment, Airbnb seemed like a new example of the sharing economy concerning hospitality, with benefits for everyone: for hosts, who could

supplement their income by sharing an extra space in their home for a short period; and for guests, who would enjoy an authentic experience, quite different from a night spent in a hotel because it was enriched by direct contact with the local population and their home routine.

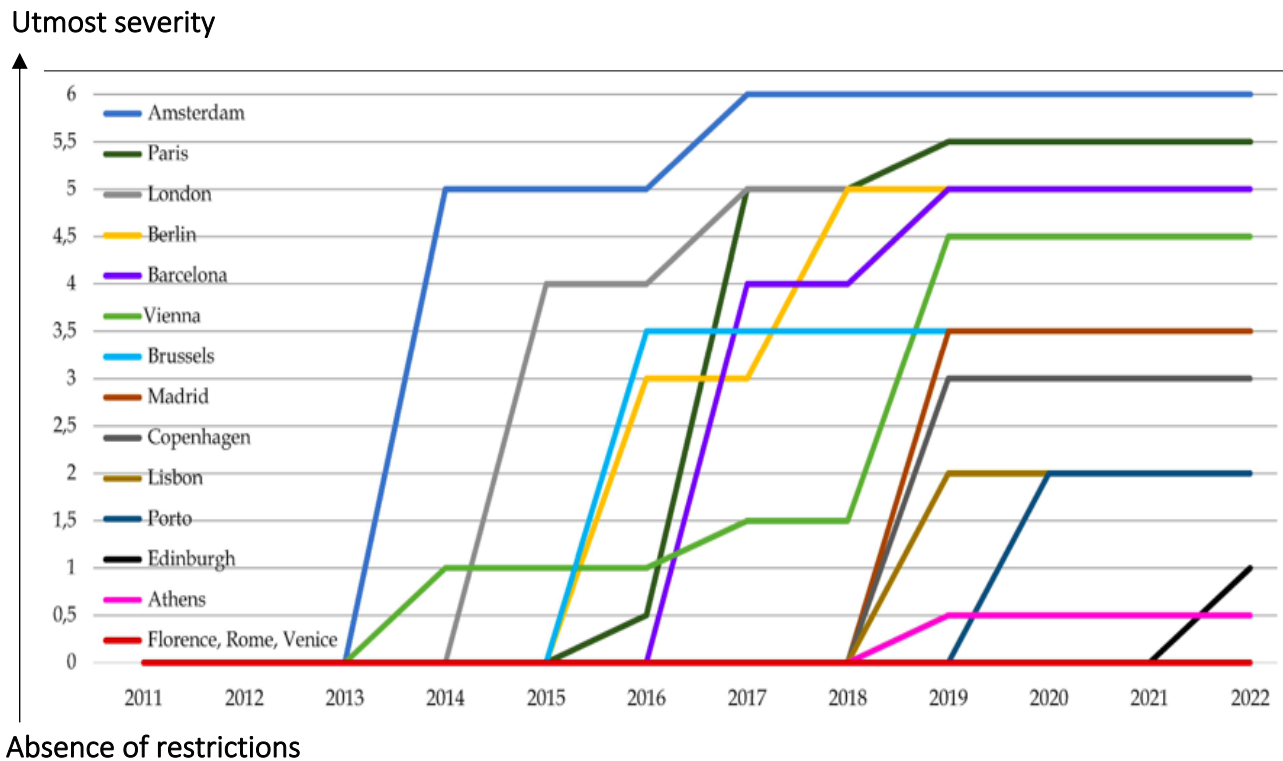


Fig. 10: Degree of stringency (calculated according to the adoption, partial adoption or non-adoption of the restrictions described in Tab.9) of the regulations on short rentals in 16 European cities from 2011 to 2022. Source: Bei and Celata, 2023.

Since then, only 15 years have passed, but today Airbnb dominates a short-term rental industry that has been revolutionized: this process translates into revenues so significant that for an increasingly concentrated set of actors, it potentially removes rental units from the market (Robertson et al. 2022).

The consequences are visible from various perspectives, with the increase in socio-spatial inequalities that already characterize the traditional hotel industry. To these, several negative repercussions on cities can be listed: the increase in the number of tourists crowding cities, resulting in the “touristicization” of urban centres; gentrification; the difficulty for residents to rent an apartment in the historic centres or in the most desirable tourist areas of the city, due to proximity to the centre or areas of interest; speculation on the real estate market; the flight of residents; the



impoverishment of the economic fabric of touristic areas, which aim to satisfy a market of tourists rather than the local population, leading to the flourishing of catering and clothing sales businesses.

The central issue in the discussion is the conversion of long-term rented homes into short-term rental units for tourism. This occurs because the home-sharing platform can offer greater profitability compared to long-term rentals. The result is the contraction of the supply in the long-term rental market and a general increase in lease rates and property values (Lavy, 2021). In recent years, the topic has become very popular and has entered the political agenda due to the negative effects and protests by residents and hoteliers. Administrations have sought to introduce rules and limits for various purposes: preserving the supply of affordable housing; countering hyper-touristification; preserving the authenticity of residential neighbourhoods; limiting the professionalization of the market; safeguarding non-professional offers aimed at "home-sharing" activities (Fig.10).

The practice among hosts of using short-term leases to mask actual entrepreneurial activities is widespread. This allows hosts to evade administrative and tax rules imposed on traditional industry operators, such as hotels or B&Bs, thus taking advantage of an illegitimate competitive advantage. Associations of these categories call for the introduction, nationally and locally, of rules to prevent unfair competition from hosts. The situation, however, is not simple since when regulating peer-to-peer accommodation services, member states must deal with European principles of the free provision of services (Paolo, 2021).

Applying the rules is often complex due to a lack of detailed information on the opposition of digital platforms, which refuse to cooperate in rule enforcement and data sharing. For example, Airbnb opposes regulations by lobbying at both the European Union level and grassroots levels through host associations mobilizing against rule enforcement (Bei and Celata, 2023).

Among the most recurring regulations for short-term rentals is the so-called 'time-cap': the goal is to limit tourist leasing to those who do it in a non-professional manner and therefore with limited intensity. If a certain number of rental days per year is exceeded (from 30 to 120), a different license and/or change of use to 'tourist accommodation' and/or additional restrictions are required (Tab.9)

There may also be differentiated restrictions for different city zones: the goal is to limit the practice in the most hyper-touristified neighbourhoods and redistribute it to more

peripheral areas, with restrictions on the number of licenses activatable in the former or, in a few cases (Vienna, partly Berlin; in the US New Orleans), a total ban (Bei and Celata, 2023).

Various European cities also provide for the obligation of registration; the obligation of residence; third-party authorization; obligations or cooperation systems with platforms. Third-party control is fundamental to reduce, for example, conflicts with the local population, especially when approval for short-term rental comes from other condominiums where the apartment is located. With authorization/license systems, the premise for any control and regulation is the introduction of a system of preventive licenses and authorizations. In Italy, only mild communication obligations apply, and interventions have been scarce and ineffective on the fiscal aspect: short-term rentals are seen only as a source of income, private or public, with indifference to their impacts on the city, residential areas, and housing issues.

Italian cities are the only ones that, at the moment, have not introduced any limits on the spread of short-term rentals (Tab. 9). The only interventions applied concern the legal definition of the activity and tax control. Elsewhere, various tools have been implemented to govern and balance the short-term rental market, containing its negative effects, and safeguarding the rights of the local population.

The effects of restrictions can be calculated based on various indicators. And it shows that they work. In cities that have responded to the problem of short-term rentals, there has been a reduction of about 30% in pressure, represented by the number of Airbnb advertisements for entire apartments; a quarter of the composition, i.e., the ratio of advertisements for entire apartments to private rooms (restrictions almost always apply exclusively to the rental of entire apartments, to safeguard residentially and more 'genuine' forms of the sharing economy); and a quarter of professionalization, represented by the number of advertisements managed by individual hosts who manage multiple accommodations, to ensure the non-professional nature of hosting activities and reduce pressures derived from the spread of 'corporate hosts.' Lastly, there is the spatial concentration of advertisements for entire apartments (with a view to decongesting the most touristy areas).

Cooperation with platforms in enforcing restrictions leads to an additional reduction of about 12% in pressure, about 9% in composition, and about 10% in professionalization. This evidence reinforces the need to impose stricter obligations on digital platforms to ensure rule enforcement (Bei and Celata, 2023).

CITY	registration	licence	time-cap	mandatory residence	zone restriction	third-party authorization	mandatory platform cooperation
Amsterdam	X	X	30 days minimum rental 7 days	X	X	X owner, condominium bank/insurer	X data sharing and blocking of irregular listings
Barcelona	X	X			X	X owner, condominium	X data sharing and blocking of irregular listings
Berlin	X	X	90 days	X	X	X owner	
London		X whether residence or >90 days	90 days		X	X bank/insurer	X blocking of irregular listings
Paris	X	X whether residence or >190 days	120 days	X		X owner, condominium	X data sharing and blocking of irregular listings
Vienna		X		X	X	X owner, condominium	X data sharing and blocking of irregular listings
Copenhagen			70/100 days	X			X data sharing
Bruxelles	X	X	120 days except for residents			X owner, condominium	X data sharing
Madrid	X	X			X	X condominium	X data sharing
Edinburgh	X	X except for residents					
Lisbon	X	X in restricted areas			X		X Withholding tax
Porto	X	X in restricted areas			X		X Withholding tax
Athens	X						X data sharing and blocking of irregular listings
Florence	X						X Withholding tax
Rome	X						X Withholding tax
Venice	X						X Withholding tax

Tab. 9: Limitations for short-term rentals in European cities. Source: Bei and Celata, 2023.

## 2.2 TOURISM CARRYING CAPACITY

The fundamental considerations integral to any conversation about the advantages and disadvantages of tourism should encompass the concept of carrying capacity and the methodologies used to evaluate its impacts (Archer et al., 2012). Carrying capacity, in the context of tourism, refers to the maximum number of visitors that a destination can effectively and sustainably accommodate without damaging its ecological, socio-cultural, and economic systems (Getz, 1983; O'Reilly, 1986; WTO, 2000; McCool and Lime, 2001). It is essentially a threshold that, when exceeded, can lead to degradation of the natural and cultural resources, overcrowding, congestion, pollution, and a decline in the quality of the tourism experience. According to other researchers such as Canestrelli and Costa (1991) and Hovinen (2002), tourist carrying capacity is instead related to the quality of the tourist experience. In this case, TCC is equal to the number of visitors a destination can have without compromising its tourism offerings. This second, less widely used definition seems to focus on tourists rather than on preserving the destination's socio-economic and natural environment. It remains clear for both cases that once the tourist carrying capacity is exceeded, a destination risks completely distorting its nature by becoming less attractive to tourists and lowering the quality of life of host communities (Giannoni and Maupertius, 2007). "Thus, determining what is the carrying capacity of tourism destinations may be essential to reach long run sustainable development" (Marsiglio, 2017: 633).

The concept of carrying capacity offers a valuable methodology to guide sustainable tourism management and planning by ensuring that tourism activities remain within the limits of what the environment and local communities can support without irreversible harm. It involves considering various factors such as the natural environment, infrastructure, local culture, and visitor management. The natural environment's carrying capacity encompasses the resilience of ecosystems, water resources, air quality, and waste management. Sustainable tourism aims to preserve the integrity of these natural resources by not exceeding their ability to regenerate and maintain a healthy balance. Understanding the socio-cultural carrying capacity involves assessing the impact of tourism on local communities, their traditions, values, and overall quality of life. Over-tourism can lead to cultural erosion, loss of traditions, and strain on community resources. Maintaining a balance is crucial to sustain the socio-cultural fabric. Finally, the economic carrying capacity pertains to the ability of a destination to absorb tourism without causing economic strain or dependencies. In this case tourism should contribute positively to the local economy, benefiting both the community and the tourism industry.

One of the fundamental advantages of applying carrying capacity methodology is its potential to minimize environmental degradation. By defining limits for visitor numbers and activities, it helps prevent issues such as habitat destruction, pollution, and soil erosion. This proactive approach ensures that the natural beauty and ecological balance of a destination are preserved for future generations. Implementing carrying capacity measures enables better management of tourist flow and distribution. This enhances the quality of experiences for visitors by preventing overcrowding and ensuring that attractions can be enjoyed sustainably over the long term. Balanced visitor numbers lead to a more enjoyable and authentic engagement with the destination. Incorporating the local community's perspectives and involvement in determining carrying capacity encourages responsible tourism. When communities actively participate in setting limits and managing tourism, they develop a sense of ownership and responsibility toward the destination's sustainability. This involvement promotes long-term commitment to preserving their cultural heritage and natural resources.

The concept of carrying capacity was first introduced in the 1930s for managing U.S. national parks, specifically to regulate wildlife, and refers to the number of animals that can be sustained in a given habitat (Sayre, 2008). However, it was only in the 1960s that scholars were able to carry out the first rigorous applications of carrying capacity to park management (Manning, 2002). Initially, only the negative environmental impacts due to the presence of tourists, such as soil compaction or degradation and vegetation destruction, were considered. Only later did scholars also take into account the social aspects of the visitors' experience (Manning, 2002).

“Initiated with the view that carrying capacity of recreation lands could be determined primarily in terms of ecology and the deterioration of areas. However, it soon became obvious that the resource-oriented point of view must be augmented by consideration of human values.” (Wagar 1964, preface). Indeed, too many visitors compromise the natural habitat preserved by the park, while simultaneously making it challenging for tourists to enjoy the park. From these early studies on carrying capacity, many others have emerged in the subsequent decades, addressing the economic, social, and environmental impacts of tourism on destinations. (Lime and Stankey, 1971; Graefe et al., 1984; Canestrelli and Costa, 1991; Felziani and Miarelli, 2012). In the early 1990s the concept of tourism carrying capacity emerged as a response to the rapid growth of tourism in many popular destinations, such as Venice, which led to concerns about sustainability and the long-term viability of these areas (Canestrelli and Costa, 1991). Researchers and practitioners began to recognize that unchecked tourism

development could have harmful effects on the very attractions that drew visitors in the first place.

While the carrying capacity methodology is an invaluable tool for promoting sustainable tourism, it does present challenges that require careful consideration. Determining precise carrying capacity limits requires comprehensive research and assessments, considering various factors. Accuracy is vital to avoid underestimation, which can lead to over-tourism and its associated negative impacts, or overestimation, which can stifle tourism development and economic growth.

Zelenka and Kacetl (2014) synthesized various studies (including those conducted by McCool and Lime, 2001; Cole, 2004; Simón et al., 2004; Monz, 2006; Salerno et al., 2013), leading to the following insights:

- There is no universally applicable "intrinsic" carrying capacity for a given area;
- Carrying capacity can manifest in multiple dimensions, necessitating an examination of research criteria, the purpose of area utilization, visitor preparedness, research location, and other relevant factors;
- Tourism carrying capacity is not solely determined by visitor numbers; critical variables include visitor distribution, activities, behavior, and the state of tourism infrastructure;
- Carrying capacity is dynamic and subject to change over time, influenced by the speed of environmental transformations;
- Ecosystems and social systems may experience strengthened impacts through positive feedback, with development following its cause after a delay;
- Carrying capacity is contingent upon various mutable conditions, requiring periodic reassessment or the establishment of a new maximum load for the environment based on changing circumstances.

Carrying capacity is often described in qualitative or quantitative terms. Qualitative factors might include indicators like the preservation of cultural heritage, the maintenance of ecosystem health, and the overall satisfaction of visitors. Quantitative measures could involve assessing the number of visitors that an area can support based on factors such as available infrastructure, waste management capacity, and the regeneration rate of natural resources.

Even if the concept of carrying capacity is quite understandable and immediate, its quantification is not so easy. There are a few examples of practical calculations in the literature and there is not a unified or predominant methodology to obtain comparable

results. The definition of the real carrying capacity of a tourist destination is a complex and difficult work. It is necessary to find a combination between quantitative terms – the number of beds in hotels, of parking facilities... - and qualitative parameters such social or environmental impacts. This combination should also include specific aspects and parameter related to the site under consideration: over or under exploited area, urban or natural destination...

For reasons of simplification all the components of the carrying capacity can be resumed in three main categories:

- Physical-Ecological which includes accessible space, visual impact, climate, aesthetics, accommodation quality, availability of facilities, transportation, number of people that can be accommodated, the need for conservation, fragility of the environment, wildlife resources, topography, vegetative cover, behavioural sensitivity of species, diversity, uniqueness of species, concealment, resilience of ecosystem/species, impact of use on the area...
- Socio-Demographic which includes visitors' choice, visitors' opinions, visitors' attitude and behaviour, expectations and preferences, perceptual and behavioural response, response to rising use levels, visitors' activities, visitor satisfaction, acceptable level of crowding, involvement of local communities/residents...
- Political-Economic investments, volume of tourists, cost of the holiday, level of economic benefits provided, level of enjoyment suited to the residents, legal restraints, policy incentives...

In considering carrying capacity, the three components (physical-ecological, socio-demographic, political-economic) acquire different weight or importance in different destinations. These differences stem from the type (characteristics/particularities) of the place, the type(s) of tourism present and the tourism/environment interface. Each tourist destination is characterized by its unique "hospitality capacity," primarily defined from an environmental perspective, but also with a special focus on social and economic aspects (tourists' and residents' expectations, characteristics of the territory, perception of tourism, opportunities, and challenges arising for the population, etc.).

The Carrying Capacity (CC) can also be envisioned as a range within which the sustainable tourism development process occurs. The upper limit is constituted by the intensive development of the tourism resource, which is the classic example of development driven by external investors solely aiming for profit maximization (exemplary cases of this approach are, for instance, the Balearic Islands and the Costa

Brava in Spain). On the other hand, the lower limit is defined by the option of developing tourism through "soft" forms of tourism. In this case, the fundamental reference is the hyper-conservative approach to the territory, where tourism is perceived solely as a threat rather than a resource. Between these two limits of "maximum" resource utilization and "minimum" interest in tourism, the concept of carrying capacity is positioned as the embodiment of the sustainable tourism concept (Michelangeli et al., 2006) (Fig. 11).

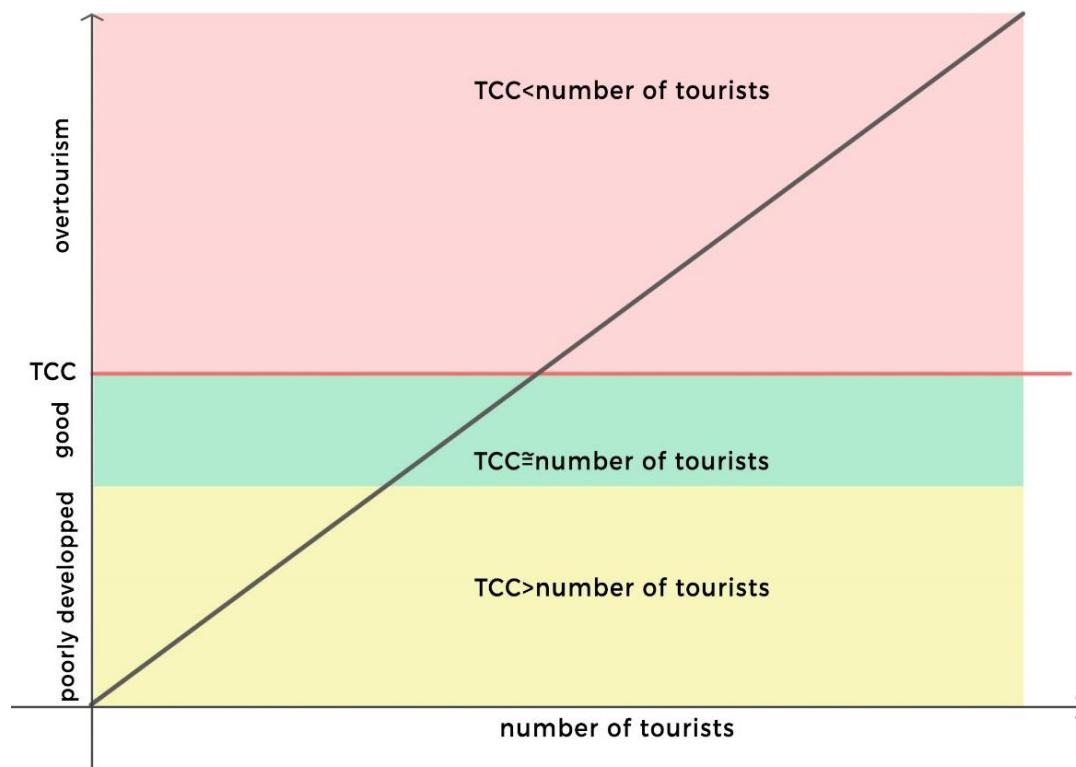


Fig. 11: The carrying capacity in relation to the average number of tourists per day at a destination. Source: author.

Commentators have highlighted the inherent difficulty in operationalizing capacity. Buckley (1999) vehemently critiques the concept, denoting carrying capacity as an illusory form of control, a seductive fiction, a social trap, or policy myth. These difficulties are related to the fact that studies on carrying capacity often focus on its definition and calculation (Brown, Turner et al., 1997; Saveriades, 2000) without taking into account the resulting management and planning practices. That is, it is not enough to establish a maximum number of tourists beyond which it is impossible to guarantee sustainable and quality tourism in the destination, but it is essential to choose the actions to be implemented to prevent the daily number of visitors from exceeding the



TCC value. Too often, studies on tourism carrying capacity have difficulty in defining a method of real-world application (Mc Cool, 2016).

According to McCool and Lime (2001), the application of the tourism carrying capacity, has revealed certain shortcomings:

- Tourism destinations are intricate systems, encompassing both objective elements (such as resource availability) and subjective variables (such as perceptions of tourists and the local community) (Bimonte & Punzo, 2005).
- Defining the maximum allowable number of tourists without causing permanent damage should ideally involve the ability to restrict access, but this is feasible only for specific locations, like nature reserves and historical sites. Otherwise, it remains a theoretical exercise lacking practical implications (Hof & Lime, 1997).
- The impact of tourism activities is not solely determined by the number of tourists; rather, it is significantly influenced by their behavior and the characteristics of the local offerings (Ioannides & Billing, 2005; Wagar, 1974).
- Tourist destinations do not possess a singular carrying capacity; instead, they have multiple capacities influenced by natural resources, management system characteristics, tourism type, stakeholder perceptions, and local conditions (Ioannides & Billing, 2005). Consequently, some authors (e.g., Lindberg et al., 1997; McCool & Lime, 2001) advocate a shift from asking "How many is too many" to "How much change from natural conditions is acceptable based on area goals and objectives." This approach, rooted in the Limit of Acceptable Change (LAC) model (Stankey & Cole, 1985), suggests viewing tourism carrying capacity assessment not as a quest for a single value but as a framework with standards defining acceptable changes quantitatively (Ahn et al., 2002).

Despite the ongoing debate and discourse on this matter in the literature, the fundamental conceptual framework of carrying capacity persists (Saveriades, 2000). It is evident that regardless of the approach taken, any examination of the impact of tourism must acknowledge the crucial role played by carrying capacity in influencing the interaction between visitors and resources. But TCC assessment needs to be regarded more as a management tool and less as a rigid technique which could lead to the definition of a unique numeric value; furthermore, defining tourism carrying capacity needs to take into account the particularities of the tourist destination and the characteristic of the tourist demand (McCool and Lime, 2001). Indeed, there are different types of tourism: cultural, natural, sport, religious..., according to different

motivations of the journey. Therefore, it is important to meet and understand this increasingly diverse and unique demanding to compute the TCC of a tourist destination.

The study of carrying capacity aims to define the "sustainability" of a tourist destination, understood as the ability to sustain a given influx of tourists over time and the consequent use of local resources. Specifically, Tourist Carrying Capacity (TCC) is a numerical limit, indicating the number of tourists a territory can accommodate while maintaining environmental standards and service quality, considering objective environmental limits, regulatory guidelines, existing planning, and the desires of the local community.

An essential consideration in tourism resource planning is that tourism should bring economic development and must be planned as a long-term asset. To enhance the utility of the TCC concept, it is ultimately understood not only as an analysis tool for the current state of a destination, highlighting its main challenges but also as a guiding instrument for future development policies. TCC aims to be an open and dynamic model, intending to guide tourism development collaboratively through active participation from economic and social stakeholders in the tourism sphere.

### 2.2.1 Tourism Carrying Capacity formulas

The concept of carrying capacity is quite understandable and immediate but its quantification is not so easy. There are a few examples of practical calculations in the literature and there is not a unified or predominant methodology to obtain comparable results. Therefore, the identification of the real carrying capacity of a tourist destination is a complex and difficult work.

There are various formulas and methods proposed in the literature for calculating tourism carrying capacity. These formulas are often context-specific and may vary based on the characteristics of the destination and the type of impact being considered.

Only some of these methods focus on numerical calculations, while others serve as tools for managing tourist phenomena or preserving cultural and natural assets. The "ecosystemic" approach by Cifuentes (1992) provides a practical method for protected areas, starting with an acceptable number of tourists derived from the destination's surface area and adjusting it with various coefficients. Van Der Borg and Costa (1988) and Canestelli and Costa (1991) propose an economic and theoretical method centred on maximizing the income derived from tourism, considering environmental and infrastructural constraints. In 2020, the same formula was updated by Bertocchi et al.

using fuzzy logic. Mansfeld and Jonas (2006) emphasize the social aspect of CC, investigating residents' satisfaction with tourism through direct involvement. The United Nations Environmental Programme suggests a qualitative approach, interpreting CC as an analysis of the state of environmental and cultural resources and evaluating various tourism development scenarios.

The method proposed by Cifuentes in its original form can address all elements of the CCT except those related to social and psychological perception. This is because it focuses on analysing environmental resource conditions rather than delving into the characteristics of the tourist experience. On the contrary, the methodology suggested by Mansfeld and Jonas is explicitly designed to provide data on social (and potentially psychological) aspects of the CCT. Costa and Van der Borg's economic model, however, lacks analysis of physical, social, and psychological aspects. This issue could be addressed by developing environmental and social indicators that also have economic significance.

#### Cifuentes, 1992

The method proposed by M. Cifuentes (1992) is particularly suitable for evaluating tourist flows within protected areas or similar environments. It is justified by the need to provide tools and mechanisms that can support park management policies. It should not be seen as a tool capable of providing a unique and definitive solution to tourism-related issues but rather as a tool to assist in planning and management phases.

According to Cifuentes, determining the Carrying Capacity Threshold (CCT) should align with the prioritized objectives of each protected area, guiding conservation and enhancement policies. The methodology involves a thorough understanding of the examined territory and is based on six fundamental steps:

1. Analysis of existing tourist management policies in the relevant protected area.
2. Analysis of the management objectives to be achieved.
3. Analysis of the current situation of the site.
4. Revision of protected area management policies if found inadequate.
5. Identification of specific factors influencing protected area management.
6. Calculation of the Carrying Capacity for the site or its parts.

In the reference model, CCT is conceptualized through three interconnected dimensions:

- Physical Carrying Capacity (PCC)
- Real Carrying Capacity (RCC)
- Effective or Acceptable Carrying Capacity (ECC)

Each term, considered in the mentioned order, is a correction of the preceding one. Specifically, PCC is always greater than RCC by definition, while RCC can be greater or equal to ECC according to the following relationship:

$$PCC > RCC \geq ECC$$

The definitions of these three dimensions are as follows:

- Physical Carrying Capacity (PCC): The maximum number of visitors that can be in a delimited space in a defined time. It is expressed by the formula:

$$PCC = T/a * S * t$$

where T is the unit of reference (tourist), a is the area occupied by a tourist, S is the available surface for public use, and t is the time needed for the visit.

The calculation of the PCC is based on some reference assumptions. Firstly, the available area must be determined considering the specific characteristics of the site. In the case of open areas, this surface may be limited by physical factors (such as the presence of cliffs) and by restrictions imposed for safety or ecosystem fragility reasons. For trails, limitations may arise from the trail's layout, affecting group size and the maximum duration of a single group's stay.

Secondary, the time factor depends on the visiting hours (e.g., related to the park's opening hours) and the actual time required to complete a full visit.

- Real Carrying Capacity (RCC): The maximum number of tourists determined from CCF, adjusted by specific correction factors based on the site's characteristics. It is expressed by the formula:

$$RCC = PCC \times (CF_1 \times CF_2 \times \dots \times CF_n),$$

where  $CF_n$  represents calculated correction factors.

The determination of correction factors relies on the ecological variety of the natural region and governing management principles. Correction factors encompass factors such as daily sunlight duration, precipitation amounts, soil erosion, excursion/trail/activity complexity, impact on wildlife, maximum group sizes, length of stay, park operating hours, and more. However, this discourse does not explore the intricate methodologies employed in quantifying these factors.

- Effective or Acceptable Carrying Capacity (ECC): The carrying capacity obtained by comparing CCR with the management capacity of the entity managing the area, considering resources such as personnel, financial resources, services, and infrastructure.

It should be noted that CCE can never be greater than CCR, and in cases of exceptionally positive factors, an equality between the two terms is the limit. The calculation of CCE reflects the conditions of the site based on the availability of resources, recognizing that these variables can be limiting factors compared to CCE. The analysis may need to be disaggregated in cases where different conditions exist within the site or refer to the most stringent constraint (Cifuentes, 1992).

Canestrelli and Costa (1991); Van der Borg and Costa (1993)

These studies aim to determine the optimal level of tourist activity in Venice using a Fuzzy Linear Programming (FLP) approach. The analysis focuses on a stylized "Venice problem," where the Basilica of St. Mark represents the entire system of nonreproducible resources attracting tourists to the city. St. Mark's usage, especially under stress conditions, is considered a key factor in determining the "ecological" tourist carrying capacity of the entire historical centre.

Six essential tourist facilities are identified, addressing basic visitor needs such as accommodation, dining, parking, and mobility within Venice. These facilities, are crucial as they could constrain the overall tourist capacity of the historical city, and their expansion may impose costs on the "no tourist-dependent" population.

The study identifies three types of visitors—tourists using hotel accommodation (TH), tourists using nonhotel accommodations (TNH), and day-trippers (DT). The objective function of the fuzzy linear programming problem is expressed as the maximization of net benefits, represented by the sum of coefficients ( $c$ ) for each visitor type:

$$\max z = c_1 TH + c_2 TNH + c_3 DT$$

The variable "t" symbolizes the overall per diem expenditures, assumed to be a reliable indicator of the net benefits received by the "tourist-dependent population" in Venice, despite income leakages to residents outside the city. The coefficients  $c_1$ ,  $c_2$ , and  $c_3$  denote the average daily per capita tourist spending for each respective visitor type.

The objective function's value, determined by an aspiration level " $b_0$ " set by the tourist-dependent population, must adhere to constraints of the form:

$$a_i x \leq b_i + \Theta p_i$$

$$\text{with } x = \{TH, TNH, DT\} \text{ and } x \geq 0,$$

where:

- " $b_i$ " represents the aspiration level/optimal according to the non-tourist population, and  $(b_i + p_i)$  is the threshold/ value that cannot be exceeded;
- " $a_i$ " are the coefficients related to the level of daily use of facility " $i$ " by each category of visitors;
- " $\Theta \in [0,1]$  is the degree of violation of constrain  $b_i$  toward  $b_i + p_i$

**Bertocchi et al. (2020)**

Canestrelli and Costa originally proposed employing the fuzzy parametric programming approach to investigate the optimization of Tourism Carrying Capacity (TCC), focusing on the specific context of Venice. Building upon this, Bertocchi et al. (2020) further refined and extended the methodology. The incorporation of fuzzy extensions in linear programming problems addressed the limitations of previous models, where parameters were assumed to be precisely known, neglecting the consideration of uncertainty.

Through the utilization of a Fuzzy Linear Programming model, Bertocchi et al. demonstrated that if  $\tilde{a} = (a_i, a_0, a_s)$  represents a triangular fuzzy number with a defined membership function.

$$\mu_a(x) = \begin{cases} 0, & x < a_i \\ \frac{x-a_i}{a_0-a_i}, & a_i \leq x \leq a_0 \\ \frac{x-a_s}{a_0-a_s}, & a_0 \leq x \leq a_s \\ 0, & x > a_s \end{cases}$$

The conventional Tourism Carrying Capacity problem undergoes transformation into the fuzzy TCC problem.

$$\begin{cases} \max_x \bar{c}_1 TH + \bar{c}_2 NTH + \bar{c}_3 E \\ TH \leq \bar{d}_1 \\ TNH \leq \bar{d}_2 \\ \bar{b}_{3,1} TH + \bar{b}_{3,2} NTH + \bar{b}_{3,3} E \leq \bar{d}_3 \\ \bar{b}_{4,1} TH + \bar{b}_{4,2} NTH + \bar{b}_{4,3} E \leq \bar{d}_4 \\ \bar{b}_{5,1} TH + \bar{b}_{5,2} NTH + \bar{b}_{5,3} E \leq \bar{d}_5 \\ \bar{b}_{6,1} TH + \bar{b}_{6,2} NTH + \bar{b}_{6,3} E \leq \bar{d}_6 \\ \bar{b}_{7,1} TH + \bar{b}_{7,2} NTH + \bar{b}_{7,3} E \leq \bar{d}_7 \\ TH, NTH, E \geq 0 \end{cases}$$

This model has been specifically designed for the case of Venice. Tourists can be categorized into three groups: TH (Tourists in hotels), NTH (Tourists in other types of accommodation, such as B&Bs and similar structures), and E (Excursionists or day tourists). TH and NTH are visitors who spend more than E in the destination.

The constraints of the model are related to Venice's most heavily used tourism subsystems and their capacity to handle tourist stress. The first two constraints involve upper bounds on the number of tourists, including the capacity of hotels and the availability of beds in accommodations like B&B rooms. The third constraint relates to the restaurant capacity for serving meals, the fourth to the availability of parking spaces, and the fifth to the capacity of public transportation on the canals (vaporetti) in the historical centre.

Finally, the last two restrictions pertain to the capacity of the waste treatment system (CC) and the maximum number of people that can be accommodated in St. Mark's

Mansfeld and Jonas (2006).

Mansfeld and Jonas propose a methodology that integrates the Carrying Capacity Value Stretch (CCVS) model with the Nominal Group Technique (NGT) for assessing resident satisfaction in a given tourism scenario. The focus is on residents' perceptions at three

intensity levels: tolerance, current situation, and expectations for future development. The method identifies three gaps—tolerance carrying capacity, reconciliation carrying capacity, and value stretch carrying capacity—reflecting disparities in tolerable impacts, desired future situations, and expectations.

To define these gaps, direct engagement with the population occurs through NGT sessions, involving 8-10 participants discussing their opinions on tourism impacts. Impact clusters are formed, and participants vote to establish priority rankings. By cross-referencing data, the methodology highlights strengths and weaknesses, providing insights for managing tourist flows in alignment with desired outcomes.

UNEP (2003).

UNEP has proposed a procedural framework for interpreting the CCT, as outlined in the following steps:

1. Conduct an analysis of available data related to the reality under investigation, leading to the production of thematic mapping.
2. Explore the concept of Tourist Load Capacity and utilize methodologies outlined in the literature.
3. Define a set of sustainability indicators suitable for describing the type of tourism impacting the site.
4. Establish a participation forum involving various stakeholders, including local administrators, representatives of economic operators linked to tourism, and the local community.
5. Conduct an analysis of the current tourism scenario.
6. Define the constraints of the problem, considering environmental, social, economic, etc., factors.
7. Develop tourism development scenarios.
8. Evaluate the scenarios in terms of CCT and explore potential future strategies.

It is important to note that these are guiding principles rather than a precise calculation model. The framework allows for flexibility and interpretation based on the specific characteristics of the tourist destination under consideration. It should be emphasized that these general guidelines have inspired various application methods, as evident in the best practices sheets within this volume.



# 3.

## TOURISM PLANNING AND MANAGEMENT: GUIDELINES FOR LOCAL AUTHORITIES

*The competitiveness of the tourism sector is intricately intertwined with its sustainability. The allure of tourist destinations is significantly shaped by their ecological and cultural surroundings, along with the attitudes of the local community.*

*Sustainable tourism planning and management refer to the process of developing and operating tourism activities in a way that minimizes negative impacts on the environment, culture, and society, while maximizing the benefits for local communities and ensuring long-term viability. This approach recognizes the interconnectedness of economic, social, and environmental aspects of tourism and aims to strike a balance between economic growth, environmental preservation, and cultural heritage protection. Engaging local communities in decision-making processes is a key principle of sustainable tourism planning. It is essential to ensure that they have a say in tourism development, and allowing them to benefit from the tourism industry. This can involve capacity building, training, and providing opportunities for local businesses to participate.*

*This chapter reports on the proposals developed during the PhD for a plan for sustainable tourism. Specifically, the phased structure that the plan should have is presented. The proposed methodology is divided into four successive phases: the first concerns the context, i.e. the national and global framework of the tourism sector and policies in which the plan fits; the second reports the state of the art of the destination under consideration; the third concerns the definition of objectives and actions; the fourth is the plan's monitoring and implementation phase. In order to successfully initiate change, one must act locally while keeping the global context in mind. The plan, in addition to the four phases described above, considers a transversal phase concerning the participation and involvement of local communities and stakeholders. Each step is explained in detail to help administrations in compiling their plan.*

### 3.1 A NEW PLAN FOR SUSTAINABLE TOURISM

The main aim of this thesis is to draw up a plan structure for sustainable tourism at destination/municipality level to help local administrations, park authorities, UNESCO sites, etc. to manage the tourism phenomenon by taking into account the economic, environmental and socio-cultural components. The proposed methodology is divided into four successive phases: the first concerns the context, i.e. the national and global framework of the tourism sector and policies in which the plan fits; the second reports the state of the art of the destination under consideration; the third concerns the definition of objectives and actions; the fourth is the plan's monitoring and implementation phase. In order to successfully initiate change, one must act locally while keeping the global context in mind. The Strengths, Weaknesses, Opportunities and Threats analysis is a valuable tool to bring these two levels together. In fact, this analysis highlights the strengths (strengths) and weaknesses (weaknesses) related to the tourism development of the destination studied by relating them to the opportunities and threats that depend on external factors, i.e. the global context related to the tourism economy. This is why the proposed plan outline envisages a SWOT analysis of the destination under study at the end of the second part. Each of the four elements of SWOT analysis is further observed according to PEST factors, referring to political (P), economic (E), social (S) and technological (T) determining factor. The PEST analysis is applied in this study to highlight the political, economic, social, technological, legal and environmental factors that have a positive or negative effect on the adoption of a plan for sustainable tourism. Finally, this doctoral research devised a new method to quantify the level of tourism sustainability of a destination. This was possible by developing the concept of tourism carrying capacity together with an analysis of the degree of social satisfaction of the destination.

The plan, in addition to the four phases described above (Tab. 10) considers a transversal phase concerning the participation and involvement of local communities and stakeholders. It is transversal because in order to build a shared plan it is essential to establish a participatory process that leads to the definition of common objectives and actions and that is able to continue to involve stakeholders throughout the planning process.

For each phase a description of the contents has been developed and all the necessary tools for its implementation are presented. The proposed plan scheme is in fact to be used as a guidebook for policy makers, urban planners who decide to manage the tourist offer and visitor flow in a sustainable way.

## A NEW PLAN FOR SUSTAINABLE TOURISM

<p>Phase 1. BACKGROUND</p>	<p>1.1 Global and national tourism trends and data</p> <p>1.2 General problems and opportunities related to tourism</p> <p>1.3 Overriding legislation and policies Overriding legislation and policies</p>
<p>Phase 2. SITUATION ANALYSIS</p>	<p>2.1 Data collection of the tourist destination: population, tourist arrivals, economic commercial activities...</p> <p>2.2 Data analysis:</p> <ul style="list-style-type: none"> <li>• SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis</li> <li>• PEST (Political, Economic, Social and Technological) analysis</li> <li>• Tourism sustainability assessment (TCC + Social satisfaction)</li> </ul>
<p>Phase 3. PLANNING PART</p>	<p>3.1 Goals determination</p> <p>3.2 Design and identification of actions. For each action, it is necessary to specify the timeframe, the actors to be involved, the necessary budget and best practices</p> <p>3.3 Connections with other programmes in force</p>
<p>Phase 4. PLAN IMPLEMENTATION and MONITORING</p>	<p>4.1 Implementation of the plan</p> <p>4.2 Plan action and goals monitoring through the identification of specific indicators</p>
<p>Cross- Phase. AWARENESS / PARTICIPATION</p> <p>Forum and meetings with stakeholders to be organized during all planning phases, from initial analysis to monitoring of actions to co-design the SPT.</p>	

Tab. 10: Structure of the plan for sustainable tourism. Source: author.

The proposed scheme is obviously general and synthetic so as to be easily applied and adapted to each destination. In fact, the aim is to create a basic plan model, which if implemented in all its parts already provides a valid support tool for a sustainable destination.

Of course, local administrations may decide to add further elements related to local specificities. In order to verify the validity of the proposed plan and to provide further elements to help in its compilation, in the following chapter the methodology presented is applied to a concrete case: the Cinque Terre National Plan.

### **3.1.1 Background**

The first part of the plan refers to the context outside the destination with regard to tourism. For this it is asked to investigate the tourism phenomenon on a general level with global and national data, to report on the main challenges and opportunities offered by tourism and the overarching legislative context. Thanks to this initial analysis, the plan developed at the local level fits into and dialogues with a broader context at the international level. In fact, it is essential that a destination's sustainable tourism plan be in line with the objectives set at a national level if they exist. In the case of a destination within the European Union, the planning must take into account all European guidelines and policies for the tourism sector and sustainable development. In order to carry out a complete background analysis, the destination filling out the plan is therefore asked to complete the following three sub-sections: global and national tourism trend and data; general problems and opportunities related to tourism; overriding legislation and policies. Below for each of the three subsections, useful elements for compilation are provided.

- **Global and national tourism trend and data**

An analysis of global tourism industry trends before and after covid is already provided in the first chapter of this research paper. It is recommended that the material provided be supplemented by adding data specific to the nation and region/district in which the destination under consideration is located. It is important to understand whether the country has a well-established tourism industry or is an emerging nation, i.e., one that has experienced a large increase in tourists over the past decade. In either case, it is interesting to report the reasons that made the nation under consideration a historical or newly developed destination. It is also very useful to understand what the average target audience of visitors is, i.e., where they come from on average and what form of tourism they are mainly interested in (cultural, beach, outdoor, ...).

- **General problems and opportunities related to tourism**

Tourism stands as a cornerstone of economic development, fostering cultural exchange, creating job opportunities, and supporting local communities worldwide. However, it also faces numerous challenges, from environmental concerns to changing local community behaviours. For this reason, this industry needs an array of challenges that demand immediate attention and innovative and sustainable solutions.

Tourism yields distinct advantages and costs for two main groups: visitors and the local residents of the host region. Visitor's experience both benefits and expenses when taking holidays, while the resident populations of the hosting area reap the advantages of tourism (Archer et al., 2012). These benefits are well-documented in the economics literature (Stynes, 1997; Balaguer and Cantavella-Jordà, 2002; Durbarry, 2004; Nowak et al., 2007; Brida et al., 2008; Katircioglu, 2009; Kadir and Jusoff, 2010).

The positive impacts of tourism are not only economic (income, new jobs...) but in some cases are also linked to the increase in services, physical infrastructures such as new roads, and airports (Kachniewska, 2015) or technological infrastructure (Firoiu and Croitoru, A. G., 2013) and cultural offerings (Besculides et al., 2002).

In the first chapter of this thesis, the main positive and negative effects of tourism were reported through an analysis of the scientific literature on the subject. To assist destinations in compiling their sustainable tourism plan, two tables (Tab. 11 and Tab. 12) (the first one summarizing the main opportunities and the second one associated to problems/impacts related to tourism) are developed right from the analysis reported in chapter one. Both the positive and negative impacts have been organized into three macro categories: environmental, social and economic. Each macro category also refers to a category and subcategory of impacts. For example, environmental negative impacts include resource use, waste generation, pollution, and loss of biodiversity and integrity of the natural environment. Each of these items is in turn divided into subcategories, i.e., resource use covers water, energy, soil, and food. To give an example relating to the positive aspects in the macro-category environmental impacts we find in the category new protected areas the sub-category UNESCO sites, national and regional parks, marine areas. In fact, there is no doubt that the quest to develop new forms of tourism can lead to the creation of new natural terrestrial and marine protected areas.

To make these two tables (one related to positive impacts and the other to negative ones) useful for each type of destination, impacts are selected that specifically affect coastal areas, historic towns, mountain villages, countryside locations, and protected areas/parks.

## GENERAL BENEFITS RELATED TO TOURISM

category	subcategory	coast	old town	mountain	country side	park
<b>ENVIRONMENTAL IMPACTS</b>						
New protected area	UNESCO SITE	x	x	x	x	x
	National or regional park	x		x	x	x
	marine ares	x				
Better management of protected sites	more money	x		x	x	x
	specialized staff	x		x	x	x
<b>SOCIAL IMPACTS</b>						
Services	transport	x	x	x	x	x
	waste management	x	x	x	x	x
	Bank, ATM	x	x	x	x	
	health facilities	x		x	x	
Infrastructure	roads	x	x	x	x	
	airports	x	x			
	tourist ports	x				
Technologies	ICT tools	x	x	x	x	x
Security	busiest streets	x		x	x	x
	more police on the streets	x	x			
Cultural offer	better cultural life	x	x			
<b>ECONOMIC IMPACTS</b>						
Direct impacts	new jobs	x	x	x	x	x
	tourism companies	x	x	x	x	x
	tourism services	x	x	x	x	x
Indirect impact	real estate value	x	x	x	x	
	sale of local products	x	x	x	x	
	GDP growth	x	x	x	x	

## GENERAL PROBLEMS RELATED TO TOURISM

category	subcategory	coast	old town	mountain	country side	park
<b>ENVIRONMENTAL IMPACTS</b>						
use of resources	water	x		x	x	x
	energy			x	x	x
	soil	x	x	x		
	food			x		x
waste production	solid waste			x	x	x
	sewage	x	x	x		x
pollution	air	x	x	x		
	marine-water	x				x
loss of biodiversity	loss of habitats	x		x	x	x
	disturbance to species	x		x		x
loss of integrity	erosion of soils	x			x	x
	land use	x	x	x	x	
<b>SOCIAL IMPACTS</b>						
congestion	noise pollution	x	x	x		
	difficulty in using spaces	x	x	x		
	traffic	x	x			
	crowded public transport	x	x			
loss of identity	fake tradition	x	x	x	x	
	changing in social-cultural activities	x	x	x	x	
loss of residents	high cost for housing	x	x			
	high cost for commercial activities	x	x			
	high cost for living	x	x	x		

damage to heritage	landscape	x		x	x	x
	architecture	x	x			
	alteration of urban structure	x		x	x	
security	increase in criminality	x	x			
	dangerous situations due to crowding	x	x	x	x	x
	dangerous situations due to the weather	x	x	x	x	x
<b>ECONOMIC IMPACTS</b>						
tourism enclave	changing in the commercial activities	x	x			
	low availability of apartments for residents	x	x			
	conflicts among land uses	x	x	x	x	
	higher cost of living for residents	x	x	x		
foreign market	hotels	x	x	x	x	x
	tour operators	x	x	x	x	x
economic unsecurity	economic dependance	x	x	x	x	
	unfair distribution of benefits	x	x	x	x	x
	precarious job	x	x	x	x	x

Tab. 11 e Tab. 12: Positive and negative impacts related to tourism. Source: author.



- **Overriding legislation and policies**

Any policy or plan at the local level must take into account existing instruments at the superordinate level. In fact, the contents reported by a destination's sustainable tourism plan must be aligned with the objectives set by regional/district and national policies (where they exist). For countries within the European Union, it is also essential to report European policies with respect to the tourism sector. Obviously at the local level it is not possible to set lower goals than those set in the superordinate levels, instead it is often desirable to set more ambitious goals to ensure a truly sustainable development of tourism in the destination under consideration. This is because national and regional targets must take into account uneven tourism development in their territory and thus provide broad guidelines. At the local or rather destination level, on the other hand, it is possible to set precise targets to meet the specific needs of the context under consideration.

### **3.1.2 Situation Analysis**

The situation analysis is crucial for governments, businesses, and organizations to make informed decisions regarding policy-making, and overall planning for the future. The situation analysis must provide a global picture of the destination in relation to the tourism sector. It is advisable to report data for at least the last ten years to identify ongoing trends. Moreover, the situation analysis provides an in-depth understanding of the current state of the urban environment, including its demographics, infrastructure, economic conditions, environmental factors, social dynamics, and more. This information is foundational for identifying issues, challenges, and opportunities within the tourist destination and it helps in recognizing the needs of the population and prioritizing areas that require immediate attention or future development. This analysis aids in identifying where resources should be allocated and which projects or initiatives would have the most significant impact on the community. This is because only examining the current situation, urban planners can forecast and anticipate future trends and needs within the destination. This is essential for developing long-term strategies that can accommodate growth, changes in demographics, technological advancements, and evolving societal demands.

The plan for sustainable tourism involves the participation of stakeholders and the local community in all its phases. Involving people already in the analysis phase allows policy makers to foster a participatory approach, where the community's needs, concerns,

and aspirations are considered, enhancing the overall effectiveness and acceptance of urban planning initiatives. The plan involves organizing focus groups, word café and distributing a questionnaire to collect as much information on the area.

The situation analysis is divided into two stages: data collection and data analysis/reprocessing. In this way all the data collected are organized and analysed to outline the starting situation of the tourist destination. Below, for each of the two phases, the elements necessary to compile the Sustainable Plan for tourism are reported.

- **Data collection**

The data collection must include all information regarding the tourist economy of a destination and its development at least over the last ten years. In addition to data regarding tourism, it is essential to include general information related to the population, environmental, social, landscape and economic characteristics of the destination. It is advisable to reorder the data collected according to the three aspects of sustainability: economic, social, environmental. According to this scheme, the data collection can be summarized as follows:

**Social aspects**

- Population Size and Growth. Understanding the total number of individuals in a given area and examining how this population changes over time due to birth rates, death rates, migration, etc.
- Age Structure. Analyzing the distribution of population across various age groups. This is crucial for understanding age-related trends and implications on things like workforce participation, healthcare needs, and social services.
- Gender and Sex Ratio. Studying the proportion of males to females in a population
- Education and Employment. Assessing the level of education and employment status within a population. This helps in understanding workforce dynamics and potential skill levels.
- Income and Socioeconomic Status. Analyzing the distribution of income and wealth within a population, which affects access to resources, quality of life, and economic disparities.
- Geographic Distribution. Understanding where the population is concentrated, whether in urban, suburban, or rural areas, and the implications for infrastructure, resource allocation, and social services.

## **Economic aspects**

- Tourist facilities. Analysing the hotel and non-hotel facilities present inside the destination.
- Tourism trends. Reporting all data relating to tourist arrivals and presences.
- Visitor Demographics. It is important to have a complete picture of the characteristics of tourists, that is, to know the average age, nationality (highlighting the relationship between international and domestic tourism) and gender.
- Visitor Behaviour. Understanding the length of stay, i.e. the average duration of visits ; seasonal trends such as peak seasons and off-peak periods ; the most popular activities or attractions and the types of lodging favoured by visitors.
- Job creation. Reporting all jobs related to the tourism sector. The tourism sector creates jobs directly within the hospitality industry (hotels, restaurants, tour guides, etc.) as well as indirectly in supporting industries like agriculture, transportation, and retail. This job creation can help reduce unemployment rates and boost local economies.
- Economic Contribution. Analysing the overall economic impact on the local economy. The first thing to be considered is the percentage of GDP generated by tourism. Secondary it is interesting to investigate if tourism activities often contribute to government revenues through taxes imposed on tourism-related activities, such as sales tax, hotel taxes, and airport fees.

## **Environmental aspects**

- Environmental features. Analysing the different types of flora and fauna that create distinct ecosystems. The biodiversity and the types of vegetation present in an area contribute to its ecological richness and provide unique habitats for various species. It is also important to analyze the climate and the geomorphological context, as both these elements can influence tourism.
- Protected sites and natural parks. Analysis of the state of the art of the protected sites and parks present. It is important to identify the budget and staff available.
- Use and management of resources. Studying how natural resources (water, energy...) are used and how they are managed and produced.
- Transportation. Understanding how visitors arrive and travel within the destination and whether the infrastructure facility is easily accessible.

- Waste management. Reporting data relating to the production of undifferentiated and separated waste. It is very useful to understand how much the presence of tourists influences the production of waste by comparing the monthly arrivals with the monthly quantities of waste produced.

- Human-made Environmental Features. While not entirely natural, some human-made features like parks, gardens, or sustainable infrastructure can significantly contribute to the local environment and provide recreational and ecological benefits.

All the data collected is studied and grouped in the next phase, relating to data analysis. They are also fundamental for defining alternative scenarios to the current one in the planning phase.

- **Data analysis**

All the data collected is aggregated and examined using three tools: SWOT analysis; PEST analysis and the calculation of tourism sustainability. While the first two methodologies are widely used to study urban and economic phenomena (Raszkowski, 2016; Chen, Dong and Ren, 2017; Wu and Liu2023), the third is developed by the research thesis. In particular, this methodology is based on the concept of tourism carrying capacity (the maximum number of people who can visit a destination at the same time, without causing the destruction of the physical, economic, socio-cultural environment) combine with a Social Satisfaction Analysis. These two elements together can return the level of tourist sustainability of the destination in question. This is obviously the starting level. The plan for sustainable tourism, through a series of objectives and actions, must aim to achieve the highest level of sustainability possible for the tourist destination studied. Below are all the elements necessary to carry out a SWOT and PEST analysis and to calculate the level of tourist sustainability of the destination starting from its carrying capacity and the analysis of the degree of social satisfaction.

### 1. SWOT and PEST analysis

SWOT analysis, originating in the 1960s, has garnered widespread recognition for its fundamental role in understanding a situation and shaping future strategies. It serves as a vital framework for strategic thinking (Learned et al., 1982; Lozano, Valles, 2007). Nikolaou and Evangelinos (Nikolaou, Evangelinos, 2010) assert that SWOT analysis serves as a valuable tool in the strategic planning of environmental management. It accomplishes this by delineating: an organization's strengths, which highlight the benefits of plan implementation; weaknesses, which identify barriers to achieving initial objectives; opportunities, and threats arising from external factors tied to the plan's

execution (Dyson, 2004; David, 2011). A SWOT analysis (Tab. 13) offers a framework for strategic planning by assisting planners in identifying and prioritizing the organization's objectives (Kajanus et al., 2004; Singh and Kosi-Katarmal, 2009). It also helps in discerning the strategies required to achieve these objectives. In the realm of urban planning, internal strengths and weaknesses lie within the realm of control and influence of the local administration (Berte and Panagopoulos, 2014). These aspects encompass the capacity to develop infrastructure, enact policies, manage resources, and foster community engagement. On the other hand, opportunities and threats in city planning are external forces beyond direct administrative control (Berte and Panagopoulos, 2014). These factors include demographic shifts, economic fluctuations, environmental changes, and technological advancements, which can significantly impact the destination's development and resilience. While the local administration can adapt and respond to these external dynamics, they cannot dictate or manipulate them, making strategic adaptation and collaboration vital in navigating and leveraging these external factors for the destination's benefit.

The integration of SWOT (Strengths, Weaknesses, Opportunities, Threats) and PEST (Political, Economic, Social, Technological) analyses is crucial when assessing complex systems, particularly in the context of a dynamic external environment (Hill, Westbrook, 1997; Menon et al., 1999). The PEST Analysis (Tab. 14) serves as a tool for strategic planning, providing a comprehensive framework to comprehend the external factors influencing a business or entity. It segments these factors into key categories—Political, Economic, Social and Technological considerations. When combined with a SWOT Analysis, the PEST framework assists in identifying internal parameters associated with a topic and categorizing them within the broader PEST categories. This joint approach is advantageous because it allows for the simultaneous examination of both internal and external factors impacting a project. Notably, external factors are often beyond an organization's control and more challenging to identify (Srdjevic, Bajcetic, Srdjevic, 2012). In the specific context of tourism, characterized by a complex and multidimensional environment, the synergy between SWOT and PEST analyses is invaluable for analysing the development of a plan for sustainable tourism in relation to its internal offers and the external environment. This integrated analysis aids in understanding how strengths, weaknesses, opportunities, and threats align with the political, economic, social and technological factors influencing the sustainable development of tourism. This comprehensive evaluation can offer insights into crafting effective strategies that account for both controllable and uncontrollable elements within the operational landscape of a tourist destination. In summary, the collaboration between SWOT and PEST analyses in the context of tourism management not only

allows for a deeper understanding of the internal and external dynamics but also offers a roadmap for strategic decision-making, risk assessment, and sustainable development within the complex landscape of local tourism offer.

<b>STRENGTHS</b>	<p>Destination Assets: local attractions, complementary offerings, natural and cultural treasures, robust infrastructure, and supportive services.</p> <p>Presence of sites of interest: in the destination there are parks or protected areas of regional or national importance, presence of UNESCO sites</p> <p>Community Support: active community engagement, shared goals and objectives.</p> <p>Workforce: availability of skilled personnel.</p> <p>Management Capacity and tools: proficiency levels and available funding.</p> <p>Economic vitality: job creation, investments and returns to the territory of earnings linked to tourism</p>
<b>WEAKNESSES</b>	<p>Limited Tourist Appeal: scarce or unexceptional attractions, inadequate accessibility, insufficient infrastructure, seasonal Dependency.</p> <p>Lack of Vision: directional uncertainties, absence of coherence within the destination community.</p> <p>Lack of planning and management tool: there are no planning and management tools for tourism phenomena and everything is decided by the market</p> <p>Readiness: absence of training requirements, financial constraints, competing priorities.</p> <p>Environmental Impact: habitat disruption or loss, heightened resource utilization with constraints, waste generation.</p> <p>Socio-cultural Erosion: disruption of daily life, customs, and traditions.</p>

<p><b>OPPORTUNITIES</b></p>	<p>Economic Prospects: business growth and increased employment opportunities.</p> <p>Product and Market Avenues: distinctive, authentic offerings, alignment with market demands, exploration of niche segments.</p> <p>Community Enrichment: sociocultural advantages.</p> <p>Conservation: preservation of natural and cultural heritage through tourism contributions.</p> <p>Infrastructure and services: the tourist development of a location can correspond to greater national investments for the development of services and infrastructures (marinas, airports, roads) in the destination</p> <p>Sustainability Initiatives: embracing eco-tourism, promoting sustainable practices, and conservation efforts to attract environmentally conscious tourists.</p> <p>Off-Peak Promotion: marketing strategies to encourage off-peak visits, spreading tourism throughout the year.</p>
<p><b>THREATS</b></p>	<p>Quality Concerns: dissatisfaction among tourists, absence of standardized experiences.</p> <p>Competitive Destinations: nearby destinations offering similar attractions might draw potential visitors away.</p> <p>External Perils: regulatory changes, travel security issues, changing consumer preferences, economic downturns, health crises.</p> <p>Extreme natural events: floods, hydrogeological instability, storm surges/tsunamis, earthquakes, fires.</p> <p>Political instability: political instability of the nation or geographical area in which the tourist destination is located</p> <p>Foreign market: foreign tour operators, airlines and hotels, imported drinks and food, in general little investment in the territory because most of the revenues end up abroad</p>

Tab. 13: Template for SWOT analysis of a tourist destination. Source: author.

<p>POLITICAL</p>	<p>Government Policies and Regulations: changes in government policies related to tourism, such as visa regulations, taxation, or infrastructure development, can significantly impact the industry.</p> <p>Political Stability: political instability, conflicts, or changes in government can affect tourist perceptions and destinations' attractiveness.</p> <p>Political attitude: policy makers propensity for sustainability and management of the phenomenon, consistency in political governance promotes a favourable environment for tourism development.</p>
<p>ECONOMICAL</p>	<p>Exchange rates and currency stability: fluctuations in exchange rates can affect the affordability of the destination for international tourists.</p> <p>Economic stability: the economic condition of a country influences the spending capacity of tourists and the overall attractiveness of the destination.</p> <p>Income levels and employment rates: higher income levels and stable employment rates can drive tourism growth by increasing people's propensity to travel.</p>
<p>SOCIAL</p>	<p>Socio-cultural aspects: understanding the local culture, values, and traditions is essential to tailor tourism services and avoid cultural clashes.</p> <p>Demographic trends: the age, gender, and preferences of the target tourist market influence the kind of services and activities that should be promoted.</p> <p>Lifestyle changes and attitudes toward travel: changes in lifestyle and attitudes toward travel, such as a growing interest in eco-tourism or adventure tourism, can impact the type of tourists attracted to the destination.</p>



<b>TECHNOLOGICAL</b>	<p>Infrastructure development: innovations in transportation, like high-speed trains or electric vehicles, can impact the accessibility and ease of travel to various destinations.</p> <p>Online presence and marketing: the use of technology in marketing and promoting the destination can significantly impact its visibility and appeal to potential tourists.</p> <p>Access to technology: availability of internet access, mobile connectivity, and digital services for tourists can enhance their experience in the destination.</p>
----------------------	--

Tab. 14: Template for PEST analysis of a tourist destination. Source: author.

## 2. Tourism sustainability assessment- TSA

To conclude the analysis of the state of the art, the Plan for Sustainable Tourism suggest to calculate the tourist sustainability of the destination studied. Following the definition of sustainability applied to tourism, the level of tourist sustainability of the destination takes into account the environmental, social and economic components.

To arrive at its definition, this thesis project proposes a simple and replicable methodology that involves three subsequent steps:

- calculation of tourist carrying capacity;
- calculation of the level of social satisfaction (residents and tourists) with respect to the tourist development/offer of a destination.;
- attribution of the level of tourist sustainability of the destination.

For each of the three steps below, all the information necessary to arrive at a final assessment of the level of tourism sustainability of the destination is provided. To conclude the analysis of the state of the art, from the analysis of the literature reported in the second chapter of this thesis, it is clear that there is no simple and univocal methodology for evaluating the tourist sustainability of a destination, also for this reason many places struggle to develop management plans for the tourism phenomenon.

To calculate the tourist carrying capacity it was decided to examine in depth and develop the formula studied by Canestrelli and Costa in 1991 for the case of Venice. This formula has been expanded by adding three new environmental constraints (related to energy consumption, water consumption and wastewater treatment) which can be significant for all rural destinations and especially in developing countries. Furthermore, the various coefficients present were reviewed taking into account the recent studies done by Bertocchi et al. (2020) again on the case of Venice. This formula uses a fuzzy linear programming system that takes into account various physical and environmental constraints and maximizes the number of tourists (divided by tourists who stay in hotels, in non-hotel facilities and day tourists), (Tab. 15) based on their economic expenditure in the area. The result corresponds to the maximum number of tourists that can be hosted in a tourist location without causing significant negative impacts.

#### FUZZY LINEAR PROGRAMMING

$$\left[ \begin{array}{l}
 \max \tilde{c}_1 TH + \tilde{c}_2 TNH + \tilde{c}_3 E \\
 TH \leq \tilde{d}_1 \\
 TNH \leq \tilde{d}_2 \\
 \tilde{b}_{3,1} TH + \tilde{b}_{3,2} TNH + \tilde{b}_{3,3} E \leq \tilde{d}_3 \\
 \tilde{b}_{4,1} TH + \tilde{b}_{4,2} TNH + \tilde{b}_{4,3} E \leq \tilde{d}_4 \\
 \tilde{b}_{5,1} TH + \tilde{b}_{5,2} TNH + \tilde{b}_{5,3} E \leq \tilde{d}_5 \\
 \tilde{b}_{6,1} TH + \tilde{b}_{6,2} TNH + \tilde{b}_{6,3} E \leq \tilde{d}_6 \\
 \tilde{b}_{7,1} TH + \tilde{b}_{7,2} TNH + \tilde{b}_{7,3} E \leq \tilde{d}_7 \\
 \tilde{b}_{8,1} TH + \tilde{b}_{8,2} TNH + \tilde{b}_{8,3} E \leq \tilde{d}_8 \\
 \tilde{b}_{9,1} TH + \tilde{b}_{9,2} TNH + \tilde{b}_{9,3} E \leq \tilde{d}_9 \\
 \tilde{b}_{10,1} TH + \tilde{b}_{10,2} TNH + \tilde{b}_{10,3} E \leq \tilde{d}_{10} \\
 TH, TNH, E \geq 0
 \end{array} \right.$$

TH= Tourists in hotels

TNH= Tourist in Non-Hotel facilities (such B&B, apartments, camping...)

E= Excursionist/ day tourist

## ECONOMIC, PHISICAL AND ENVIRONMENTAL CONSTRAINTS

5

$\tilde{c}_1 = \text{Hotel Tourist expenditure}$

$\tilde{c}_2 = \text{Extra-Hotel tourist expenditure}$

$\tilde{c}_3 = \text{Daily tourist exspenditure}$

Economic

$\tilde{d}_1 = HB = n \text{ }^\circ \text{ available beds in hotels}$

$\tilde{d}_2 = NHB = n \text{ }^\circ \text{ available beds in extra-hotels}$

$\tilde{d}_3 = L = n \text{ }^\circ \text{ lunches}$

$\tilde{d}_4 = P = n \text{ }^\circ \text{ individual available park positions}$

$\tilde{d}_5 = HS = \text{max number of tourists in a hot spot}$

Phisical

$\tilde{d}_6 = EC = \text{capacity of the power grid}$

$\tilde{d}_7 = S = \text{sewage capacity}$

$\tilde{d}_8 = W = \text{water available}$

$\tilde{d}_9 = WM = \text{solid waste capacity}$

$\tilde{d}_{10} = T = \text{public transport capacity}$

Environmental

**CORRECTIVE CONSTRAINTS** – depending on how much the different categories of tourists (TH, NTH and E) use the different constraints (lunches, parking, public transport, ...)

$$b_{3,1} = 0.68:0.83$$

$$b_{3,2} = 0.57:0.72$$

$$b_{3,3} = 0.18:0.22$$

$$b_{4,1} = 0.30:0.37$$

$$b_{4,2} = 0.30:0.37$$

$$b_{4,3} = 0.68:0.83$$

$$b_{5,1} = 0.30:0.50$$

$$b_{5,2} = 0.20:0.40$$

$$b_{5,3} = 0.60:0.80$$

$$b_{6,1} = 1.00:1.50$$

$$b_{6,2} = 0.50:1.00$$

$$b_{6,3} = 0.10:0.50$$

$$b_{7,1} = 1.60:2.00$$

$$b_{8,2} = 1.40:1.80$$

$$b_{8,3} = 0.60:1.00$$

$$b_{8,1} = 1.60:2.00$$

$$b_{8,2} = 1.40:1.80$$

$$b_{8,3} = 0.60:1.00$$

$$b_{9,1} = 1.60:2.00$$

$$b_{8,2} = 1.40:1.80$$

$$b_{8,3} = 0.60:1.00$$

$$b_{10,1} = 0.90:1.10$$

$$b_{10,2} = 0.90:1.10$$

$$b_{10,3} = 0.90:1.10$$

Coefficient according to the utilization rate		Hotel Tourist (TH)	Extra Hotel Tourist (NTH)	Daily trippers (E)	References
Launches	lower	0.68	0.57	0.18	Source: survey conducted by the Ca 'Foscari University of Venice in 2018
	central	0.75	0.65	0.20	
	higher	0.83	0.72	0.22	
Public transport	lower	0.90	0.90	0.90	Le-Klähn, D. T., Roosen, J., Gerike, R., & Hall, C. M. (2015). Factors affecting tourists' public transport use and areas visited at destinations. <i>Tourism Geographies</i> , 17(5), 738-757.
	central	1.00	1.00	1.00	
	higher	1.10	1.10	1.10	
Parking facilities	lower	0.30	0.30	0.68	AVM (AVM holding manages public parking areas in Venice and Mestre), Garage San Marco, Venice City Park srl and Green Park websites
	central	0.33	0.33	0.75	
	higher	0.36	0.36	0.83	
Waste management	lower	1.60	1.40	0.60	Cullen, R., Dakers, A. J., McNicol, J., Meyer-Hubbert, G. K., Simmons, D. G., & Fairweather, J. R. (2003). Tourism, water and waste in Akaroa: Implications of tourist demand on infrastructure.
	central	1.80	1.60	0.80	
	higher	2.00	1.80	1.00	
Energy and water use	lower	1.60	1.40	0.60	Dascalaki, E., Balaras, C.A., XENIOS- a methodology for assessing refurbishment scenarios and the potential of application of RES and RUE in hotels. <i>Energy and Buildings</i> 36, 1091-1105, (2004)
	central	1.80	1.60	0.80	
	higher	2.00	1.80	1.00	
Hot spots	lower	0.30	0.20	0.60	This data has been calculated using this formula: $\text{max occupancy} = \frac{\text{flow rate} \times \text{time}}{\text{total gate width}}$
	central	0.40	0.30	0.70	
	higher	0.50	0.40	0.81	

Tab. 15: Corrective constraints according to tourists' use of services and places. Source: author.

The formula used thanks to fuzzy logic allows you to use parameters that are not perfectly known and include a certain level of uncertainty. Since the aim is to have a method adaptable to individual destinations, fuzzy logic better responds to the needs of the territories. Furthermore, the proposed methodology establishes minimum and maximum levels of the various coefficients based on the use by tourists who sleep in hotel facilities, non-hotel facilities and daily tourists of the items that determine the various constraints considered. And for example, tourists who sleep in hotels produce on average more waste than day tourists as they stay longer in the area and hotel services often use disposable objects. Instead, day tourists use public car parks more than others (hotel and non-hotel tourists) as accommodation facilities often have dedicated parking spaces. Obviously, individual destinations can use the coefficient that best suits their territorial reality or even calculate new ones that better respond to local specificities.

Once calculated, it is necessary to compare the value of the tourist carrying capacity with the tourists present on average in the destination. If the TCC is significantly lower it means that the destination is most likely experiencing overtourism. However, if the TCC is much lower it is still possible to develop the local tourist offer, obviously always following the principles of sustainability. Finally, if the TCC is almost equal to the average number of tourists per day, the destination is in equilibrium. This is the best case which however also requires planning tools to stabilize the situation and not exceed the number of tourists as time goes by.

Finally, the research project suggests to combine the Tourism Carrying Capacity with a Social Satisfaction Analysis. This because while all three aspects of sustainability are mentioned in the definition of tourist carrying capacity, the formulas for its definition focus on physical, economic and environmental parameters as demonstrated by the literature review reported in the second chapter and the formula presented in the Plan for Sustainable Tourism. This because social aspects pose significant challenges when it comes to assessment due to their reliance on subjective elements encompassing physical, ecological, and economic considerations (Saveriades, 2000; Symmonds and Hammitt, 2000). The complexities of measuring social satisfaction are compounded by their close ties to perceptions and values. Furthermore, the assessment is hindered by the reliance on individual preferences, attitudes, opinions, and experiences (Linberg et al., 1997; Mauerhofer, 2013; Jurado et al., 2013), making the quantification of social satisfaction a challenging task.

The analysis of social satisfaction is done on the basis of two questionnaires, one for tourists and one for residents (Tab. 16).

SOCIAL SATISFACTION ANALYSIS		ANSWERS SCORE
<b>RESIDENT</b>		
A. Has tourism improved the following services?		
Waste management	1 2 3 4	Average value of A (1 not at all; 2 a little; 3 quite a lot; 4 very much)
Public transport	1 2 3 4	
Health care	1 2 3 4	
Parking	1 2 3 4	
Public Offices	1 2 3 4	
Banks and ATMs	1 2 3 4	
B. How has tourism improved the following sectors?		
Well-being and quality of life	1 2 3 4	Average value of B (1 not at all; 2 a little; 3 quite a lot; 4 very much)
Costs	1 2 3 4	
Historical heritage	1 2 3 4	
Safeguarding the environment	1 2 3 4	
Cultural offer	1 2 3 4	
Local identity	1 2 3 4	
Crowding	1 2 3 4	
Security	1 2 3 4	
Resident satisfaction		A+B/ 2
<b>TOURIST</b>		
C. Do you consider the destination crowded?	1 2 3 4	(1 very much; 2 quite a lot; 3 a little; 4 not at all)
<b>TOTAL SCORE = Resident + Tourist satisfaction</b>		

Tab. 16: Survey for the Social Satisfaction analysis. Source: author.

In the first questionnaire, the local community is asked to evaluate how a series of services have changed following tourism development: waste management, public transportation, healthcare, parking, public offices, and banks/ATMs. Specifically, respondents are asked to assign a value from 1 to 4, where 1 is "not at all," 2 is "a little," 3 is "quite a lot," and 4 is "very much." Subsequently, they are asked whether tourism has positively impacted various aspects: well-being and quality of life; costs of living; historical heritage; safeguarding the environment; cultural offerings; local identity; crowding and security. Here again, the scale used ranges from 1 to 4 (1 not at all; 2 a little; 3 quite a lot; 4 very much).

Tourists are simply asked to assess the level of crowding at the destination. A single parameter was chosen for tourists to give more importance to residents' responses. Additionally, tourists' perception of crowding is one of the conditions in the literature that determines overtourism (citation needed).

In section 3.1.5, an extended version of the questionnaire for residents and tourists is provided with many more questions useful for the knowledge phase and planning phase but not related to the social satisfaction analysis.

Once the final value is obtained, it is recommended to use the software MATLAB and in particular the "Fuzzy Logic Designer app" to determine the tourism sustainability level of the destination. MATLAB, which stands for MATrix LABoratory, is a high-level programming language and an interactive environment designed primarily for numerical computing, data analysis, and visualization. It combines computation, visualization, and programming within a user-friendly framework, allowing users to express problems and solutions using familiar mathematical notation. Common applications encompass: mathematical and computational tasks; algorithm creation; modeling, simulation, and prototyping; exploratory data analysis and visualization; scientific and engineering graphic representation. MATLAB's versatility and extensive functionality make it a powerful tool for a wide range of applications in science, engineering, and beyond (Choy and Edelman, 2005; Saraswat and Sharma, 2013). In particular, MATLAB is widely used in academia and research institutions for conducting experiments, analyzing data, and developing mathematical models in fields such as physics, biology, chemistry, and engineering.

The Fuzzy Logic Designer app in MATLAB is a graphical user interface (GUI) tool that allows users to design, simulate, and analyze fuzzy logic systems without having to write code manually. It simplifies the process of creating fuzzy inference systems, which are widely used in control systems, decision-making, and various other applications (Fig. 12).

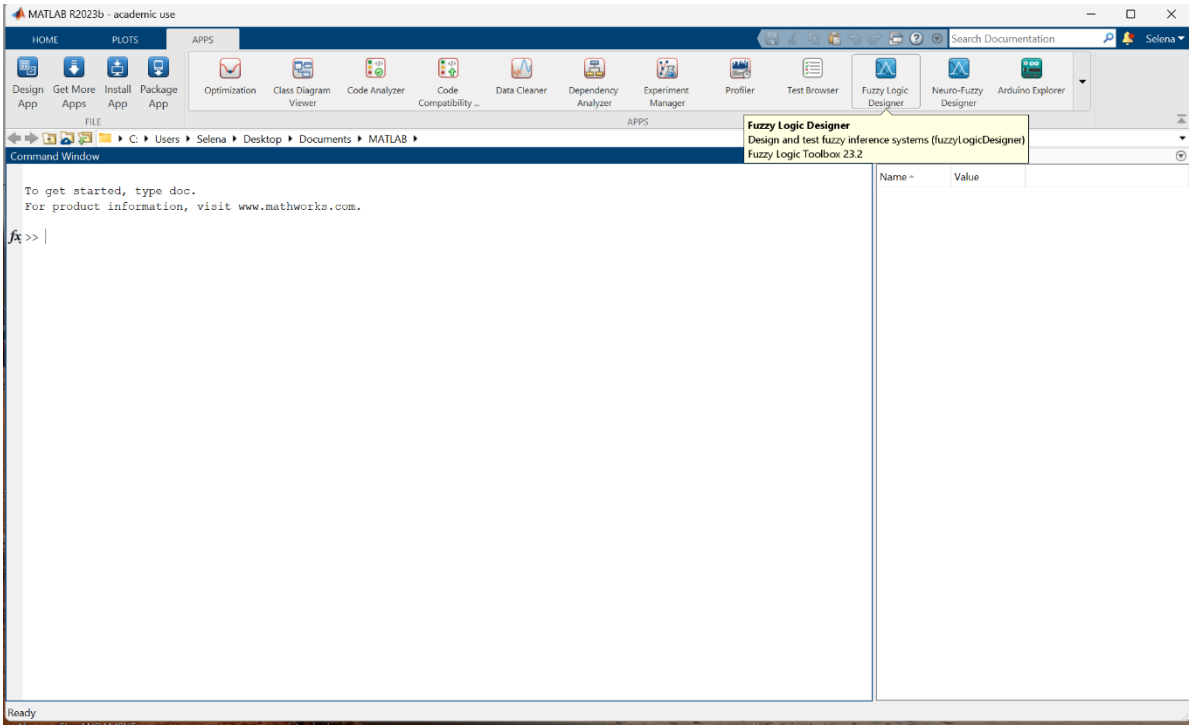


Fig. 12: Inputs and outputs of the fuzzy interface system. Source: author.

Fuzzy logic was chosen as the best way to combine quantitative data, such as those obtained from the TCC, and qualitative data from the Social Satisfaction Analysis. The fuzzy logic designer allows for the input of various factors to obtain an output. In this case, there are two input factors: one related to social satisfaction and the other considering the ratio between the average daily number of tourists and the TCC (Fig. 13).

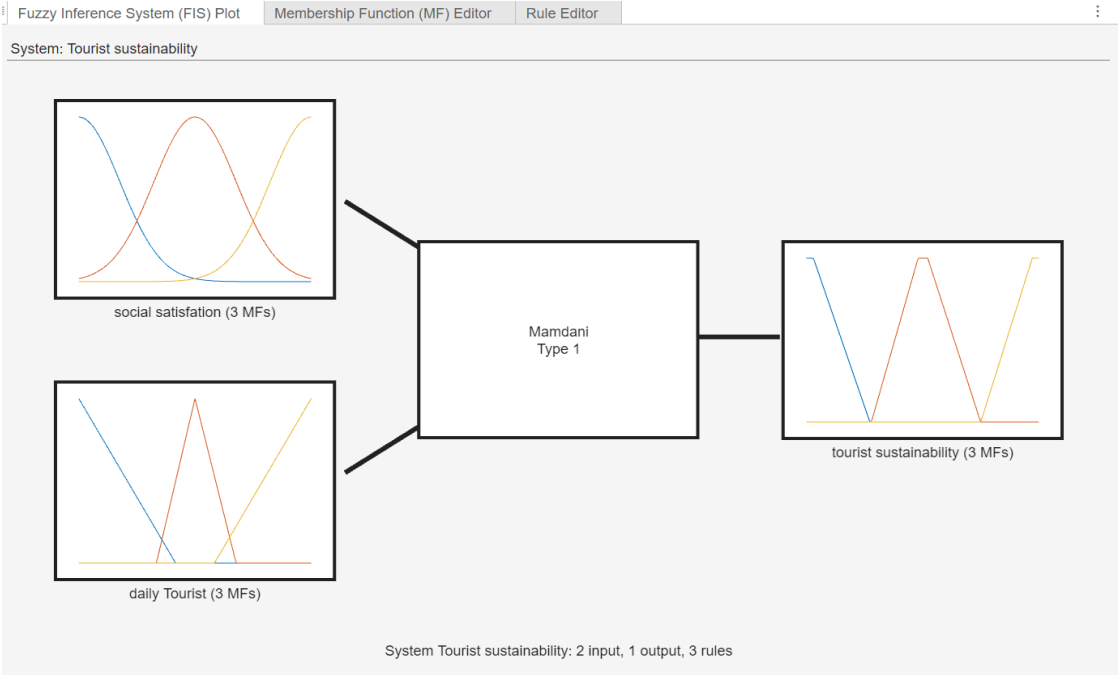


Fig. 13: Inputs and outputs of the fuzzy interface system. Source: author.



The two inputs are characterized by two different membership functions. To represent social satisfaction, a range from 0 to 4 has been established, and the responses are represented by three Gaussians, where the first pertains to a low level of satisfaction, the second to a medium level, and the third to a high level (Fig. 14). The parameters of the Gaussians depend on the questionnaire results.

PROPERTY EDITOR: INPUT

Name: social satisfaction

Range: [0 4]

Number of MFs: 3

Evenly Distribute MFs

Name	Type	Parameters
low	Gaussian	[0.7078 -5.551e-17]
medium	Gaussian	[0.7078 2]
high	Gaussian	[0.7078 4]

Fig. 14: Property editor of the membership function regarding the social satisfaction. Source: author.

For the second input, the reference range is given by the maximum and minimum number of tourists in the destination (i.e., the minimum number in the low season and the maximum in the high season). The figure below related to the property editor (Fig.15), is not filled in as each destination has its own values. The membership function is characterized by three triangular curves: one for values of daily tourists less than the tourist carrying capacity (TCC) of the destination; the second for values close to the tourist capacity, and the third represents when the number of tourists exceeds the TCC.

Name: daily Tourist

Range: [min daily tourists; max daily tourists]

Number of MFs: 3

Evenly Distribute MFs

Name	Type	Parameters
<TCC	Triangular	[min daily tourists; x; y]
=TCC	Triangular	[y; TCCmin; TCCmax]
>TCC	Triangular	[TCCmax; max daily tourists]

Fig.15: Property editor of the membership function regarding the TCC/day tourists. Source: author.

The system responds to a series of rules that relate the two different inputs to the output according to fuzzy logic (Fig. 16). In this case, three rules are necessary:

If social satisfaction is maximum, and the number of daily tourists is similar to the value of the TCC, then the level of tourism sustainability is high.

If social satisfaction is minimum, and the number of daily tourists is greater than the value of the TCC, then the level of tourism sustainability is minimum.

If social satisfaction is medium, and the number of daily tourists is less than the value of the TCC, then the level of tourism sustainability is medium.

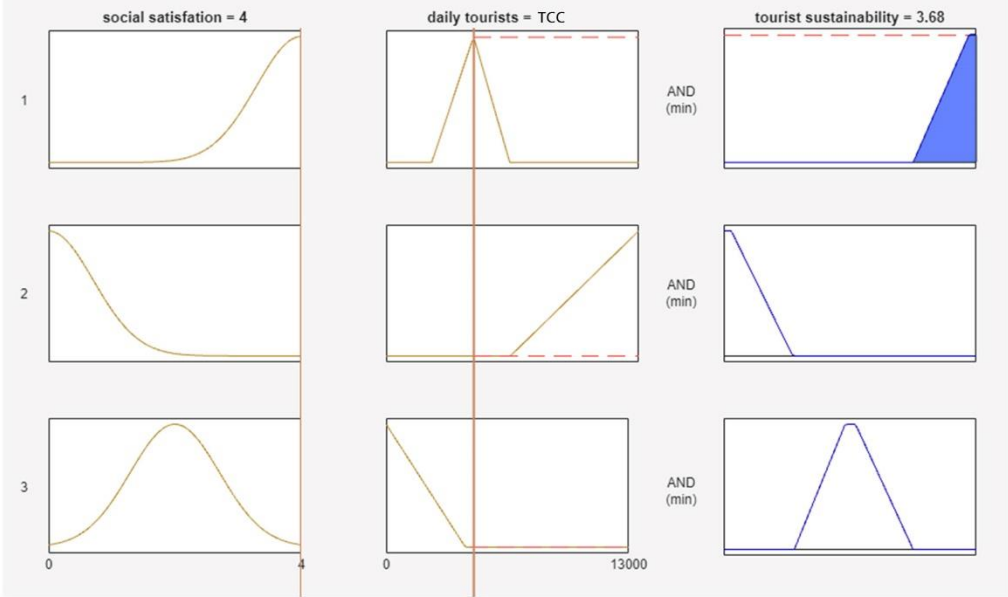
	Rule
1	If social satisfaction is high and daily Tourist is =TCC then tourist sustainability is high
2	If social satisfaction is low and daily Tourist is >TCC then tourist sustainability is low
3	If social satisfaction is medium and daily Tourist is <TCC then tourist sustainability is medium

Fig. 16: Rule editor interface of the fuzzy logic designer. Source: author.

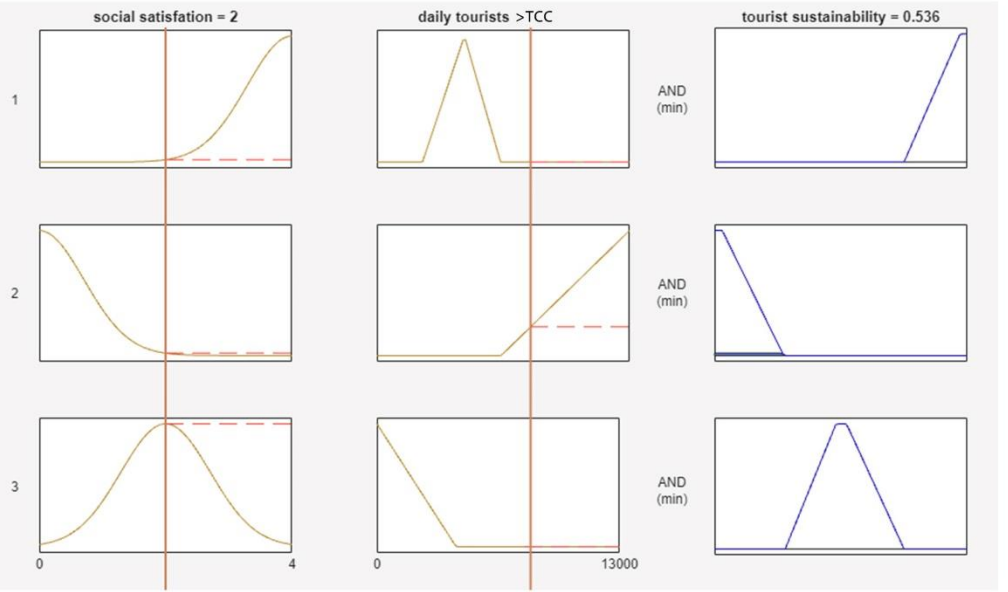
Indeed, if residents and tourists are dissatisfied (low social satisfaction), and the number of daily tourists exceeds the tourist carrying capacity (TCC), none of the three components of sustainability (social, as derived from the social satisfaction analysis, and environmental and economic, as considered in the TCC calculation) is fulfilled. Therefore, the level of tourism sustainability for the destination is minimal. Conversely, if social satisfaction is maximum and the number of visitors is similar to the TCC value in the destination, there is a perfect balance between economic returns, environmental protection, and respect for host communities. Finally, if the satisfaction level is moderate, and the number of visitors is much lower than the TCC, the sustainability level is moderate, as social and environmental components do not show significant negative impacts, but the economic opportunities arising from the tourism development of the destination are contained.

The level of tourism sustainability obtained from the application of the above methodology describes the initial situation in the analyzed destination. The goal of the Sustainable Tourism Plan is to achieve the maximum level of sustainability possible through the attainment of a series of objectives and actions defined in the planning phase. Below is the final interface of the fuzzy logic designer, capable of correlating different social satisfaction values with possible scenarios in which a destination may find itself concerning its carrying capacity to assess overall tourism sustainability (Fig. 17)

Best scenario



Worst scenario



Average scenario

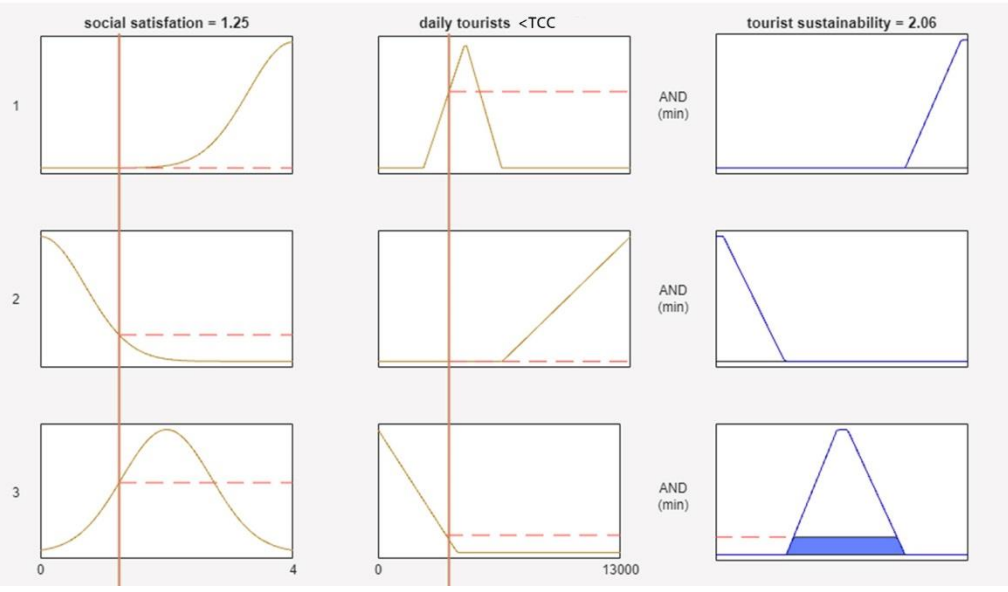


Fig.17: Final interface of the fuzzy logic designer to define tourism sustainability. Source: author.

### 3.1.3 Community involvement

Sustainable development depends on “the legitimacy and trust with which government are perceived and the sense of citizenship which enables individuals to participate in a civic society...(this) implies a renewal and rejuvenation of the democratic process” (Jacobs, 1995: 5). This can be achieved by granting individuals the chance to engage in decision-making procedures, promoting public awareness and involvement through the widespread availability of information, and ensuring effective access to both judicial and administrative proceedings (Dola, Mijan, 2006).

Participation in urban planning serves as a platform for communities to collaborate in decision-making, ensuring that the diverse needs and aspirations of individuals are considered (Hassan, et a., 2011; Fagence, 2014). By sharing a common vision among stakeholders, a sense of unity and shared purpose emerges, promoting a cohesive approach to development and problem-solving within urban areas. Moreover, this engagement enables the exchange of knowledge, ideas, and resources, enriching the collective understanding and facilitating innovative solutions. As people actively contribute and alter their activities, they learn from each other and leverage their unique strengths, collectively enhancing their capacity to address challenges and create sustainable urban spaces.

Throughout every phase, spanning from conception to execution, it is imperative for the sustainable urban planning process to consistently involve both the local community and administrative bodies (Candia and Pirlone, 2020). This involvement is crucial for the continual evaluation, validation, and ultimately ensuring a symbiotic relationship between the community and the final urban proposal. In this way is it possible to arrive at the definition of a plan that is truly shared, since the local community and stakeholders have contributed both to the definition of the current state and to the choice of objectives to be achieved and actions to be implemented. If actions and objectives are shared, the community is more likely to commit to them as it recognises their value. So by fostering this partnership, the process becomes more agile and facilitates quicker implementation. Emphasizing the active engagement of the population, along with other stakeholders, is pivotal to the triumph of the Sustainable Urban Planning Process (Amado et al., 2010 ; Donders, 2014). Their collective participation ensures diverse perspectives (Adams and Casteleijn, 2014; Schauppenlehner-Kloyber and Penker, 2016), essential insights, and a broad consensus necessary for sustainable urban development. This inclusive approach significantly contributes to the effectiveness and success of the urban planning process.

The engagement of citizens in urban decision-making and planning processes has become a prevalent and established practice (Brandt and Svendsen, 2013; Vogt and Haas, 2015).

Good participation requires a careful cognitive and organisational phase in which the different participatory methods available, the assumptions -objectives and contextual conditions- and the strengths and weaknesses of the chosen participatory method are clarified (Lampreu, 2023). The clearer these aspects are, the better the results obtainable from participation. The techniques of participatory processes can be divided into three macro groups: quantitative, qualitative and participatory, and each of them corresponds to certain methods (Tab.17).

Techniques	Description	tolls
Distributive (quantitative)	They are tools that presuppose an objective and determined knowledge of facts, attitudes, motivations and feelings, from which conclusions can be drawn about the reality under study. They are called distributive techniques because they attempt to distribute reality, quantifying and separating it according to the data obtained. The larger the sample, the more significant it is.	survey
Structural (qualitative)	In this case, the aim is to obtain a totally subjective insight into the analysis of reality, using the form of conversation and the subsequent analysis of the speeches made. The people selected express ideas, values and insights that would otherwise be excluded from analysis.	conversation
Dialectics (participative)	These are techniques that consist of obtaining information through interaction between the participants themselves. Group dynamics vary according to the objectives set, but in common they always have debate and dialogue: the aim is to find consensus through argumentation and reasoning.	assembly

Tab. 17: The techniques in participatory processes. Source: Reprocessed from Babbie and Buzzi, 2010.

As far as quantitative techniques are concerned, the instruments with an important distributional component are paper/telephone surveys, opinion studies and partly web-based consultation. Statistical interpretation is thus used to draw conclusions representative of the population, and the data collected are useful for understanding stakeholders' opinion. With regard to structural techniques, on the other hand, one can mention focus groups and in-depth interviews, which have a very important qualitative component. While questionnaires are useful for outlining the opinions of residents and tourists, interviews are particularly suitable for understanding the point of view of businesses, local authorities, tour operators... Both tools serve the same dual strategic purpose: to record relevant discourses and to feed into the participatory process as a whole. Some surveys or web-based consultation also incorporates structural components, since many questions are open-ended. Finally dialectical techniques are open workshops where the local community is invited to participate. These workshops can use different participatory techniques such world café, focus group, planning for real... These methods can each stand on their own as efficient approaches, or when integrated and used in combination. Haklay et al. (2018) and Geekiyanage et a. (2021) catalogue many different methodologies for engaging individuals in physical planning and design. Researches in community planning methodologies is continually advancing. New techniques are constantly being explored and tested to more aptly address particular circumstances and align with the unique requirements of local communities.

The Sustainable Plan for Tourism proposes to use an integrated methodology that involves the use of all three of the above-mentioned techniques (distributive, structural and dialectic techniques) to better include the host communities in the planning of the tourist offer of the territory in which they live. Specifically, the PST suggest to develop and distribute a questionnaire among the inhabitants of a tourist destination to find out their point of view, with the aim of having as many answers as possible (Tab. 18). The questionnaire also includes two open answers which already help in the qualitative analysis. At the same time, the PST involves carrying out interviews with various subjects known as "privileged witnesses", or particularly "experts" in the territorial situation or the problem to be addressed: mayors, technicians, associations... In this case it is a type of analysis qualitative. The PST also suggests using the World Café method to hold one or preferably more public meetings for co-planning the tourist offer of the destination under study. This participatory technique allows a large number of people to dialogue together. Its peculiarity is to create a debate led by facilitators who direct the participants within a common framework thanks to the guidance of some reference questions specific to the destination under study.

## RESIDENT SURVEY

### Questions

### Answers

Age	Under 18
	18-39
	40-59
	Over 60
Sex	Male
	Female
	other
Residence	Specify the municipality
What is tourism for you?	An opportunity for my territory
	A problem
	I don't know
In the last 10 years the quality of life in the place where you live...	1 It's worse
	2
	3
	4
	5 it's much better
Has tourism improved the following services?	
Waste management	1 not at all; 2 a little; 3 quite a lot; 4 very much
Public transport	1 not at all; 2 a little; 3 quite a lot; 4 very much
Health care	1 not at all; 2 a little; 3 quite a lot; 4 very much
Parking	1 not at all; 2 a little; 3 quite a lot; 4 very much
Public offices	1 not at all; 2 a little; 3 quite a lot; 4 very much
Banks/ATM	1 not at all; 2 a little; 3 quite a lot; 4 very much

---

Have you ever imagined to move to live elsewhere? Yes  
no

---

If yes, why?

Lack of services for residents (shops, transports, ...)  
Cost of life  
Cost of houses  
Too much tourists  
Lack of work opportunities  
Other \_\_\_\_\_

---

What are for you the main reason to live in \_\_\_\_\_?

---

Has tourism improved the following arguments?

---

Quality of life 1 not at all; 2 a little; 3 quite a lot; 4 very much

---

Costs (houses, services, food) 1 not at all; 2 a little; 3 quite a lot; 4 very much

---

Heritage 1 not at all; 2 a little; 3 quite a lot; 4 very much

---

Job opportunities 1 not at all; 2 a little; 3 quite a lot; 4 very much

---

Local identity 1 not at all; 2 a little; 3 quite a lot; 4 very much

---

Cultural offer 1 not at all; 2 a little; 3 quite a lot; 4 very much

---

Crowding 1 not at all; 2 a little; 3 quite a lot; 4 very much

---

Environmental protection 1 not at all; 2 a little; 3 quite a lot; 4 very much

---

Security 1 not at all; 2 a little; 3 quite a lot; 4 very much

---

Job situation

Student  
Unemployed  
Retired  
Employee  
Self-employed worker

---



Do you work with the tourism sector?

---

Yes

No

---

If yes, how long have you been working in the tourism sector?

Less than five years

5 to 10 years

10 to 20 years

More than 20 years

---

If you work in tourism sector...

I own a business

I am employed in a year-round tourism business

I am employed in a seasonal tourism business

I think my salary is fair

I don't think I receive a fair wage

---

How would you like to make tourism more sustainable?

limited number of tourists

better distribute the arrival of tourists throughout the year

introduce new attractive places to avoid concentration in just a few points

a different management of public transport

better distribute economic revenues across the territory

more attention to the sale and consumption of local products

more decisive policies to reduce waste production and for clean energy

new wastewater management plants

Other\_\_\_\_\_

---

Tab. 18: Survey for residents. Source: author.

## TOURIST SURVEY

### Questions

### Answers

Age	Under 18
	18-39
	40-59
	Over 60
Country of origin	_____
Sex	Male
	Female
	Other
Have you ever visited this place before?	Yes
	no
Have you met your expectations?	Not at all satisfied
	Slightly satisfied
	Moderately satisfied
	Very satisfied
	I don't know
How much did you spend on average per day? (Expenditure for one person)	Less than 50
	50-100
	100-150
	150-200
	200-250
	Over 250
Did you sleep inside the destination?	Yes
	No

Where did you sleep? (Even if outside the destination)	Hotel Guesthouse Airbnb Bed and breakfast Camping I didn't sleep I went on a day trip _____
How many nights?	1, 2, 3, 4, _____
Do you think the destination is too crowded?	1 strongly disagree to 5 strongly agree
When did you visit_____?	Spring Summer Autumn Winter
Would you recommend this place to a friend?	1 not at all 2 3 4 5 absolutely
Have you participated in events during your journey?	Cultural events Food & wine I did not participate in any events other _____
Do you think sustainability is important in a trip?	1 strongly disagree to 5 strongly agree

Which means of transport did you use on the way from your home to the destination? (you can select the last two means of transport taken; example: car to La Spezia + train to Cinque Terre)	Train
	Car
	Bike
	Bus
	Boat
	Cruise
	Airplane
Other_____	
How did you move inside the destination?	Train
	Car
	Bike
	Bus
	Boat
	On foot
Other_____	
How do you rate the following services inside the destination?	
Waste management	1 not at all; 2 a little; 3 quite a lot; 4 very much; I do not Know
Public transport	1 not at all; 2 a little; 3 quite a lot; 4 very much; I do not Know
Tourist welcome	1 not at all; 2 a little; 3 quite a lot; 4 very much; I do not Know
Food and wine	1 not at all; 2 a little; 3 quite a lot; 4 very much; I do not Know
Public spaces	1 not at all; 2 a little; 3 quite a lot; 4 very much; I do not Know
Public offices	1 not at all; 2 a little; 3 quite a lot; 4 very much; I do not Know
Access to places of interest	1 not at all; 2 a little; 3 quite a lot; 4 very much; I do not Know
WIFI	1 not at all; 2 a little; 3 quite a lot; 4 very much; I do not Know
Have you visited the destination...	With a guide met on site
	With an organized tour
	Independently

Tab. 19: Survey for tourist. Source: author.

### 3.1.4 Planning part

The planning part is the heart of the plan. However, this is not a phase independent of the others, in fact the choice of objectives depends heavily on the previous analyses of the external (background) and internal (system analysis) context of the destination. Obviously, also all the information collected through the continuous involvement of the local community and stakeholders is essential to define a shared future scenario. Indeed, Sustainable tourism planning and management require a long-term perspective, careful consideration of local context, and a commitment to balancing the interests of different stakeholders. It aims to create a positive and lasting impact on both the destination and the people who visit it. This is not an easy task, because a balance between economic growth, environmental conservation, and socio-cultural preservation can be complex, as these goals may sometimes conflict.

The planning part of the STP includes the choice of a tourism vision obviously linked in this case to sustainability and a series of objectives with the respective actions to achieve a true balance between the social, economic and environmental aspects of the tourist destination. In the analysis phase, the STP presents a methodology for calculating the level of tourism sustainability of a location taking into account its carrying capacity and the social satisfaction of residents and tourists. Based on the level of sustainability obtained, the STP suggests a general package of different objectives and actions. Obviously, each destination, based on local specificities (coastal tourist destination, mountain village, city of art...) can modify and implement the general scheme. However, this scheme provides a valid tool for having at least an initial package of objectives and actions to develop. In fact, not all destinations have the human and economic strength to develop plans and strategies. In this way we try to provide support by providing a general basic tool that can be applied to any tourist destination. Local Resistance: Host communities may resist tourism development due to concerns about cultural dilution, increased living costs, and disruption of traditional ways of life. The objective/action packages are different depending on whether the level of tourism sustainability has a value less than 2; between 2 and 3 and between 3 and 4. Specifically:

- Tourism sustainability index 0-2 (Tab.20)

In this case we can talk about a saturated destination, where the level of social satisfaction is very low and the tourist carrying capacity is much lower than the average number of daily tourists of a destination. This means that there are too many people in a particular place at a particular time. In saturated destinations, tourism creates more problems than benefits. There are evident negative impacts on the local natural, social

and cultural environment such as social dislocation, loss of cultural heritage, economic dependence and ecological degradation. Often in these destinations the conflict that exists between the host population and tourism is evident. Residents are increasingly forced to live on the margins due to the increase in living and housing costs and the lack of services dedicated to them. In fact, the destination now seems to live to satisfy the needs of tourists and the permanent inhabitants are gradually decreasing. Cities like Venice and Dubrovnik are examples of destinations that have exceeded their carrying capacity and where resident satisfaction is very low.

-Tourism sustainability index 2-3 (Tab.21).

In the second case, however, it is a little-known destination, where the level of social satisfaction is average and the tourist carrying capacity is decidedly greater than the number of tourists per day. In this second case, the economic benefits relating to tourism development are low, but the environmental impacts are also very low. In little-known destinations it is still possible to increase the offer and the number of local tourists. Obviously the STP foresees that this offer focuses on sustainability from the beginning to prevent the destination from reaching its saturation in the future and therefore seeing the negative effects on the social and natural environment linked to overtourism. The actions suggested by the STP in this case aim for example at: Create opportunities to invest in the tourism sector especially for young start-ups with a focus on sustainability; improve connections to reach the tourist destination by sustainable means; increasing accommodation facilities with a low environmental and social impact (campsites, energy-efficient hotels, etc.)....

- Tourism sustainability index 3-4 (Tab.22).

In the latter case we are faced with a destination in equilibrium with high social satisfaction and a tourist carrying capacity similar to the average daily number of tourists. In this type of destination, the economic revenues are high and the negative social and environmental impacts linked to tourism are very low. The tourism industry is well developed, but it is important to manage it correctly to prevent the number of tourists from exceeding the TCC over time. For this reason the STP suggests various actions to stabilize the number of tourists such as: policies to regulate hotel and extra-hotel facilities; agreements with cruise companies, tour operators and tour guides; agreements with public transport companies; tools for quantifying and monitoring the number of visitors (telephone cells, cameras, ...).

Tourism sustainability index 0-2 (TCC<number of tourists per day; SSA 0-1)

### FULL SATURATION

This scenario is generally considered unacceptable, since it implies going over the top limit of TCC

Plan objective	Suggested action and strategies
Reducing and managing tourist numbers	<ul style="list-style-type: none"> <li>Policies to regulate short-term rentals (Airbnb)</li> <li>Agreements with cruise companies, tour operators and guides</li> <li>Agreements with public transport companies</li> </ul>
Seasonal adjustment	<ul style="list-style-type: none"> <li>Diversification of the tourism product</li> <li>Campaign in favour of domestic tourism</li> <li>Valorisation of nature and outdoor routes (for Mediterranean countries) out of season</li> <li>Organisation of food and wine, cultural events... in low season</li> <li>Price policies (concessions for hotels and public transport)</li> <li>New tourist targets (countries with harsh winters or different school calendars)</li> </ul>
Security and accessibility	<ul style="list-style-type: none"> <li>ICT for tourist management</li> <li>Staff and anti-crowding tools in critical locations</li> <li>Physical and virtual information material to indicate less-travelled places of interest and how to reach them</li> </ul>
Improving relations between residents and tourists (economic-social sustainability)	<ul style="list-style-type: none"> <li>Charter of Visitors' Rights and Duties to promote Responsible Tourism</li> <li>Investing part of tourism revenues in the territory</li> <li>Involvement of the local community in tourism planning</li> <li>Shops, restaurants and accommodation facilities that use local products</li> <li>Incentivize visitors who stay overnight in the destination</li> </ul>
Improve environmental sustainability	<ul style="list-style-type: none"> <li>Incentives for accommodation facilities for energy efficiency and the reduction of water consumption</li> <li>Creation of an energy park community for the production of energy from renewable sources</li> <li>Reduction of packaging, drinking water dispensers and promotion of the use of water bottles</li> <li>Zero balance of land consumption</li> </ul>

Tab. 20: Possible objective and actions for destinations with overtourism. Source: author.

Tourism sustainability index 2-3 (TCC>number of tourists per day; SSA 2-3)

### LITTLE-KNOW DESTINATION

This is the best scenario from an environmental point of view

Plan objective	Suggested action and strategies
Destination marketing	Development of the local tourism product together with inhabitants, companies, research organisations and institutions
	Promotion of the destination in markets related to responsible tourism
	Improvement of the tourism service in the area (offices, information...)
Improving the sustainable tourism offer	Create opportunities to invest in the tourism sector especially for young start-ups with a focus on sustainability
	Improve connections to reach the tourist destination by sustainable means
	Increasing accommodation facilities with a low environmental and social impact (campsites, energy-efficient hotels, etc.).
	Increase the cultural, natural and sports tourism offer
	Choice of natural and cultural sites to be enhanced through a participatory planning
	Creation of new protected areas to preserve nature and attract responsible tourism
Synergies with other tourist destinations	Educating both tourists and local communities about the importance of sustainable tourism practices and encouraging responsible behaviour. This can help reduce negative impacts and foster a culture of sustainability
	Agreement with overcrowded neighbouring tourist areas to better distribute the arrival of tourists over the territory
	ICT tools to move people from crowded destinations to other landmarks

Tab. 21: Possible objective and actions for little- known destinations. Source: author.



Tourism sustainability index 3-4 (TCC=number of tourists per day; SSA 3-4)

### BALANCED DESTINATION

In this case the environmental, economic and social elements are in balance

Plan objective	Suggested actions and strategies
Stabilize tourist numbers	Pact between the local community, public administration and private companies in the tourism sector to stabilize the area's tourism offer (investments to improve quality/sustainability and not quantity of tourists)
	Policies to regulate hotel and extra-hotel facilities
	Agreements with cruise companies, tour operators and guides
	Agreements with public transport companies
	Tools for quantifying and monitoring the number of visitors
Strengthening the sustainable tourism offer	Helping tourism businesses in the ecological transition
	Improve connections to reach the tourist destination by sustainable means
	Helping accommodation facilities lower their environmental impact
	Directing visitors towards increasingly responsible forms of tourism
	Shops, restaurants and accommodation facilities that use local products
	Incentivize visitors who stay overnight and extend their stay in the destination
	Educating both tourists and local communities about the importance of sustainable tourism practices and encouraging responsible behaviour. This can help reduce negative impacts and foster a culture of sustainability
	Creation of an energy park community for the production of energy from renewable sources
	Reduction of packaging, drinking water dispensers and promotion of the use of water bottles
	Zero balance of land consumption

Tab. 22: Possible objective and actions for balanced destinations. Source: author

For each of the actions established depending on the level of tourism sustainability of the destination, the PST also provides for the compilation of a table (Tab.23) with all the information necessary for its implementation. Specifically, the table shows: the identification of the action area, a brief description, references and good practices, the times, money and actors necessary for its development and the monitoring indicators.

Therefore, according to the strategy proposed in the planning phase by the STP, the destination, after having calculated its level of tourism sustainability, must achieve a series of objectives, each broken down into one or more actions to improve or maintain its level of sustainability.

ACTION	Name of the action
Area of intervention	Specify whether the action will be carried out throughout the territory within the tourist destination or whether it involves individual neighbourhoods, protected areas...
Description	Briefly describe the action you intend to develop, reporting all the steps necessary for its implementation
References/Good practices	Report similar experiences and good practices developed in other contexts, highlighting common factors and divergences. It is also advisable to see if the repercussions of similar actions on the territory have been analysed in the scientific literature.
Time	Months, years...
Actors	List of possible actors: Region, Municipalities, Chamber of Commerce, residents, tourist operator....
Budget	Money needed to develop the action divided by year
Monitoring indicator	Identify at least one indicator useful for monitoring the development of the action

Tab. 23: Strategies according to the TCC index to be included in the STP at regional level.  
Source: author.

### 3.1.4 Plan implementation and monitoring

The implementation and monitoring phase is a regularly evaluating process on the impacts of plan actions on the destination and adjusting strategies as needed to ensure that sustainability objectives are being met. This phase constitutes a fundamental part of any strategic spatial planning tool:

“Strategic Planning is like taking a journey during your holiday, you first decide where you want to go – Cape Town in Robben Island. Then you develop a strategy of how to get there –take an airplane (which Airline), drive your car (which highways), etc. This will be influenced by the amount of money, time and other resources you have available. Then you monitor your trip to see if your strategy takes you to your destination and how your strategy worked (missed flights, poor road conditions, etc.). Therefore, strategic management is the widespread set of ongoing activities and processes that organisations use to systematically coordinate and align resources and actions with mission, vision and strategy throughout an organisation. Strategic management activities transform the plan into a system that provides strategic performance feedback to decision making and enables the plan to evolve and grow as requirements and other circumstances change” (Maleka, 2014 :13).

Research has shown that when the strategic plan is integrated with procedures for tracking the advancement of strategic initiatives through performance measures (Hendrick, 2003; Poister and Streib, 2005; Androniceanu, 2017), it results in improved outcomes (Poister et al. 2010). Policy and plan monitoring Policy monitoring serves three fundamental purposes as delineated in the literature:

- Facilitating Informed Policy Responses: One primary objective involves understanding and learning from the ongoing transformation processes, thereby enabling informed policy adjustments and responses (Floc'hlay and Plottu, 1998). This facet emphasizes the importance of monitoring to grasp the dynamics of change and the implications for policy development.
- Cultivating Trust and Collaboration: Another significant aim is the cultivation and reinforcement of trust and collaboration among stakeholders and citizens (Gianelle and Kleibrink, 2015; Saltelli, 2007). Effective monitoring practices contribute to transparent communication and engagement, fostering trust among all involved parties and promoting cooperative efforts toward common goals.
- Ensuring Accountability and Oversight: The third essential purpose involves maintaining accountability among policy-makers and project managers (Hanberger, 2011; Magro and Wilson, 2015). Monitoring serves as a mechanism to uphold transparency, evaluate the efficacy of implemented policies, and ensure that decision-

makers remain answerable for their actions and choices, thus enhancing the overall governance and management of projects.

These objectives underscore the multifaceted role of policy/plan monitoring in not only capturing the dynamics of change but also in nurturing collaborative relationships while upholding accountability and transparency in governance and project management. Monitoring systems are multifaceted tools that serve crucial functions by executing three primary tasks: firstly, they collect and centralize information, making it accessible to decision-makers. Secondly, they elucidate the objectives and mechanics of innovation and development strategies, rendering them comprehensible to a wider audience. Lastly, they facilitate and encourage the active engagement of stakeholders by establishing transparent channels, thereby supporting their constructive involvement in the process. Through these functions, monitoring systems not only provide critical data but also enhance understanding, transparency, and inclusive participation in decision-making processes (Kleibrink et al., 2016)

For this reason, each action envisaged by the Sustainable Tourism Plan is characterized by a monitoring indicator capable of evaluating its correct application. The indicators are measured every six months and every year the plan provides for the creation of a monitoring report. The report states:

- the progress of each action;
- the degree of achievement of the macro-objectives given by the sum of the results obtained from each individual action;
- the corrective measures (need for more funding, new actors to be involved to carry out the actions of the plan, different areas of application,) to be undertaken for all those actions that have encountered problems during the implementation phase and which are therefore not reaching the targets expected results.

Before drafting the monitoring report, the STP provides for the holding of at least one meeting on the progress of the actions with all the stakeholders, to decide together on the corrective measures to be undertaken. In this way it is possible to guarantee participation in all phases of the plan from its conception to the verification and evaluation phases. The monitoring report and the participatory meeting preparatory to its drafting also serve to communicate in a transparent and effective way the progress of the actions and expenses envisaged by the STP. In the last ten years, Europe has been experiencing a crisis of democratic institutions demonstrated by the increase in abstention from voting (Bandau, 2023). The greater involvement of people in local policies and greater transparency of the institutions' work, as envisaged by the STP, help to create once again a strong bond between local communities and

administrations. Without trust and cooperation between the parties, it is difficult to promote sustainability in all sectors, not just tourism.

The diagram below (Fig.18) summarizes the monitoring and review process of the plan which passes through the evaluation and analysis of the results together with the stakeholders with the aim of improving the plan itself. This scheme is well suited to being adapted to all local STPs. In fact, each plan can follow the same strategy of verification and revision of the actions, the local specificities are represented by the choice of the actions and the respective monitoring indicators.

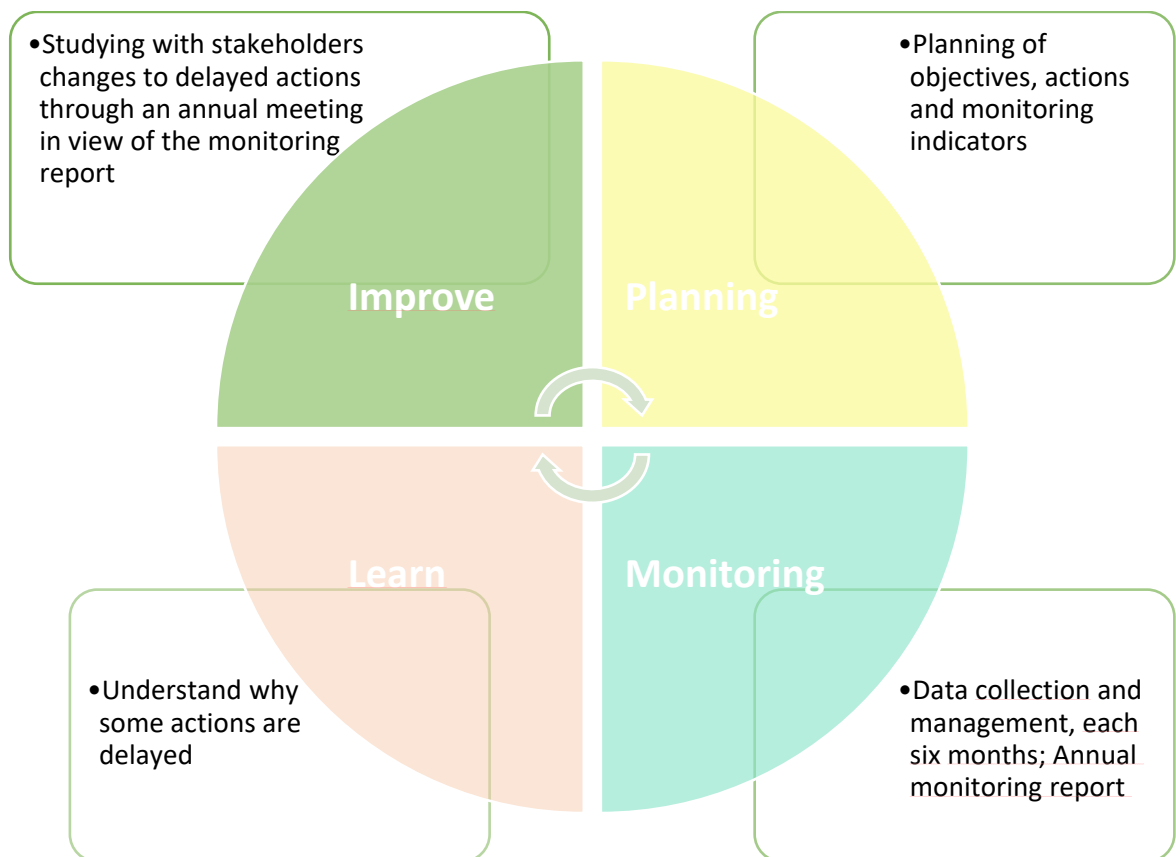


Fig. 18: Monitoring and review processes of the Sustainable Tourism Plan. Source: author.

# 4.

## CASE STUDY: THE CINQUE TERRE NATIONAL PARK

*This chapter reports on the application of the STP proposed by the research project to the concrete case of the Cinque Terre National Park.*

*The Cinque Terre, a world-famous tourist destination, is a fragile area that can hardly cope with the 3.5 million tourists arriving each year. Despite the obvious signs of distress, no effective tools have been introduced to counter the current economic model that focuses on maximising tourism. Extreme weather phenomena, senseless exploitation of the territory, and unbridled tourism are threatening one of the most characteristic places on the Italian coast.*

*In 1997, the Cinque Terre were inscribed on the UNESCO World Heritage List as a 'cultural landscape', two years after the Cinque Terre National Park Authority was created to safeguard this unique landscape transformed by the local inhabitants, replacing the natural vegetation with a dense texture of terraces planted with vines or olive grove. The peculiarity of the Cinque Terre National Park consists in the union between man and nature: since the year one thousand the inhabitants of the Cinque Terre dissected the steep slopes of the hills to obtain strips of cultivable land. Due to these particularities the Park is defined as "Man's Park" to underline how the intervention human has created an atypical and highly anthropized landscape, where the terraces represent the architecture capable of giving harmony to the landscape natural.*

*To save this heritage of beauty and biodiversity, public authorities must rethink the relationship between tourism and the environment. For this reason, the research project decided to use this emblematic case study as a starting point to apply and test the STP. The Cinque Terre (Monterosso, Vernazza, Corniglia, Manarola and Riomaggiore-Fig.19) are increasingly turning into one of many places where people live only to serve tourism, compromising their quality and beauty and above all their authenticity. The constantly increasing flow of tourists has seriously threatened the economic, ecological and cultural balance of the park (Vegnuti, 2020).*





Fig. 19: Riomaggiore. Source: author.

#### 4.1 CINQUE TERRE, THE LITERATURE AND MEDIA NARRATIVE. FROM 'PARADISE' TO 'NIGHTMARE'

There are very few texts in the scientific literature that deal with tourism in the Cinque Terre National Park. There are several studies that analyse the naturalistic, landscape, geomorphological and agrarian aspects of the park (Costa et al., 1992; Lombardi & Marchese, 2005; Lombardi, & Marchese, 2005; Terranova et al. 2006; Cevasco, 2007; Bianchi et al., 2007; Tredici, 2016; Raso et al., 2021; Santoro et al., 2021), but only five publications deal with tourism. This is why the research, after examining the texts in the literature, focused on the reconstruction made by the local and international media of the 'Cinque Terre case'.

##### Literature review

In 2006, Gatti and Fornelli analysed the relations existing between the various actors interacting within the Cinque Terre Park. The research focuses above all on the difficult coexistence between the management policies of the protected areas and the local populations and especially with their daily habits. The mention of tourism is linked to the difficulty on the part of many visitors to respect the fragility of places, this fragility is obviously greater in park and protected areas.

In 2015, Lemmi and Mamboueni analysed the employment effects of tourism within the Cinque Terre Park, recording a strong criticality in the seasonality of the sector. On average, tourists' spending in Liguria contributes to over 29,000 work units, where annual work units are defined as the hours of employment for one person in one year. The Cinque Terre like Patagonia or the Matterhorn represent unique landscapes capable of attracting people from all over the world (Ferrata, 2013). However, there is a lack of careful planning of tourism development to manage the important visitor flows and to distribute them throughout the year.

The study by Battilani, Bernini, and Mariotti (2018) examines the complexities of the UNESCO site Cinque Terre as a tourist destination facing overtourism. The analysis focuses on the territory's consumption by temporary residents, emphasizing the need for stakeholder cohesion to establish sustainable tourism management tools. Despite being a competitive international destination, the site faces issues such as brief tourist stays, concentrated influx in specific months, and the emergence of rushed tourism. The authors propose key guidelines for sustainable tourism policies, including fostering dialogue among residents and institutions, investing in education and social capital, creating a link between agriculture and tourism, promoting unity among Cinque Terre municipalities, and establishing a unified monitoring system for tourist flows and services. These measures aim to address challenges, restore trust, and ensure the long-term sustainability of the destination.



In Bertini's analysis (2019), the inclusion of Cinque Terre in the UNESCO World Heritage list in 1997 and the subsequent establishment of the national park played a pivotal role in garnering international recognition for the destination. However, the surge in tourist influx has placed immense strain on the inherently delicate ecosystem of the region. Continuous efforts are required to sustain and safeguard both the tangible and intangible heritage that led UNESCO to acknowledge its exceptional universal value. This situation has given rise to a paradox: while the primary goal of Cinque Terre's UNESCO inscription was to enhance and preserve its landscape, the very act of designation, coupled with subsequent tourist development, poses a risk to the cultural significance of the area today. This essay delves into the intricacies of this paradox, underscoring the imperative to devise novel strategies for managing the intricate equilibrium between conservation, appreciation, and sustainable utilization within this context.

Vegnuti (2020) analysed the case study of the Cinque Terre as an example of tourism overcrowding, commonly known as over-tourism. Cinque Terre rapid development into an international tourist hotspot has brought substantial economic benefits to the local economy. However, it has also unveiled a downside. The area has reached a saturation point that poses a risk to its cultural heritage. Formerly a tranquil rural enclave nestled between the sea and mountains, Cinque Terre has transformed into a mass tourism destination struggling to cope with an excessive influx of visitors. Deliberations are underway to not only mitigate the overwhelming flow of tourists but also to reconsider and reshape tourism management, fostering an approach that encourages sustainable practices and a deeper appreciation for the region's natural beauty.

### **Mass media narratives**

The growth of tourism in the Cinque Terre has been a rapid and forceful phenomenon, with significant repercussions on the life of the villages: from an organizational, aesthetic, and commercial standpoint, as well as in the daily lives of those who live or work in the Cinque Terre. For this reason, the arrival of visitors has been narrated by local, national, and even international press through newspaper articles, photographic reports, and television features. It's a continuous story that has unfolded over the years.

From once being unknown and often overlooked even by the inhabitants of Liguria, the Cinque Terre have, in a few years, become a sought-after destination for international tourism. Millions of visitors from around the world have flocked to the area.

In tandem with this evolution that has greatly altered the liveability of the Cinque Terre, it's interesting to note how the media narrative has changed. In the early 2000s, the Cinque Terre were still portrayed as a "hidden paradise," a "destination to discover," an

unusual and little-known location outside of well-trodden tourist circuits. Interviews with celebrities who were already visiting were added to the reporters' suggestions.

In less than ten years, however, the narrative of the Cinque Terre as a paradise destination begins to crumble: the first reports emerge that depict a more conflicted, problematic reality, with local administrations no longer enthusiastic about the hordes of visitors but rather eager to take action. Yet, tourism continues to grow forcefully. At this point, the evolution is faster and more disruptive: the decade is not even over when the situation takes a nosedive.

As repeatedly reported by the press, the forced interruption of tourism due to the Covid-19 pandemic could have provided a moment of reflection for the Cinque Terre tourism to reorganize and try to devise a new way of visiting the villages. But the warning cry goes unheard: with the resumption of international travel, visits resume, and the overwhelming crowding during certain periods of the year returns. What was defined as "paradise" twenty years earlier is now depicted by the media as "a nightmare."

Through the media narrative, one can observe the evolution of tourism development over twenty years: a territory initially discovered by tourism, becoming a mass tourism destination, and ultimately experiencing the consequences of over-tourism. Below is a compilation of local, national, and international articles that illustrate the rise and decline of the seaside villages in the last two decades, from 2003 to 2023.

**La Repubblica, July 2003:** In the early 2000s, the Cinque Terre, a region in Italy, experienced a transformation in lifestyle and tourism. Previously overlooked, it gained popularity, especially among Americans, thanks to travel influencer Rick Stevens. This newfound attention attracted various types of tourists, including students participating in the University of the Landscape and nature enthusiasts involved in the "adopt a vineyard" campaign. Despite concerns about mass tourism, there was optimism that a balance could be achieved. The Cinque Terre National Park played a role in preserving the area's values, including terraced landscapes, gastronomy, and viticulture. The villages each embraced specific vocations, such as fishing, viticulture, and organic agriculture. Future plans aimed to develop hiking trails, shift tourist influx from coastal to less-traveled areas, and maintain a balance that benefited both residents and visitors. Overall, the article portrayed a positive impact on the local population, with increased economic activity, infrastructure development, and a revival of traditional practices.

**La Repubblica, June 2006:** The following year, it is the turn of a celebrity's story, the comedian and author Dario Vergassola, a native of La Spezia with roots in the Cinque Terre on his father's side. In the pages of Repubblica, Vergassola recounts his family vacations in Manarola. "Strange destiny, that of the Cinque Terre," says Vergassola. "To think that there are Americans who may fly from Dallas to come here, and there are people from La Spezia who have never been to the Cinque Terre." Vergassola tells of his youth vacations in the Cinque Terre in years when there were not many tourists, and renting a house or a room "was not something to bankrupt oneself as it is today." The actor mentions the peculiarity of the inhabitants of the Cinque Terre, who, before the arrival of roads, viewed their isolation as a handicap.

At one point, journalist Costantino Malatto asks him, "Aren't you bothered by this invasion of tourists?" And he replies, "No, on the contrary, it's beautiful that so many people discover the beauty of these lands. For years, we couldn't do it ourselves; we were so used to living in a magnificent place that we didn't realize it." And again, "Now the people here have raised their heads. They've gone from their noisy grumbling to initiatives; they're making an effort. Today, there's attention, but we must be vigilant." In what sense? "The balance is weak, fragile. Every stone that moves must be controlled with the soul. One must always remember a name: Rapallo. To avoid ending up like it. And fight speculation."

**Corriere della Sera, July 2006:** In the mid-2000s, Americans were the dominant force in international tourism, but China became a significant player. In 2006, a memorandum of understanding was signed between the president of the Cinque Terre National Park and the Society of the Great Wall of China, aiming to strengthen collaboration for sustainable tourism and knowledge exchange. This cultural and tourist initiative was announced in Rome to connect two UNESCO World Heritage Sites, the Cinque Terre and the Great Wall of China, emphasizing their commonality in being human-made landscapes. The collaboration aimed to break the isolation of the Cinque Terre villages and foster ties with the other side of the world.

**Il Secolo XIX, June 2008:** Over the past decade, efforts to expand tourism in the Cinque Terre have extended in various directions, targeting not only foreign visitors but also areas near the borders of Liguria. The National Park of Cinque Terre has launched integrated tourist packages as part of a triennial agreement signed in 2008, promoting cultural and environmental itineraries for the development of an integrated tourist system. The agreement, initiated by park presidents Franco Bonanini and Fausto Giovanelli, aims to create complementarity between protected areas, addressing

congestion in Cinque Terre by diverting visitors to mountainous areas and promoting incoming tourism in the Apennine Park. The collaboration targets diverse audiences, including school and group tourism, hiking and sports tourism, and culinary tourism. Franco Bonanini emphasizes the historical unity of the territories, citing environmental, cultural, and culinary excellences, and underscores the enduring connection between the Apennines and the sea through shared history and heritage.

**The New York Times, October 2013:** In October 2013, a comprehensive feature by the prestigious American newspaper The New York Times titled "Treasures of the Cinque Terre" was published. The author, Liesl Schillinger, expressed initial concerns about finding the Cinque Terre overly touristy based on warnings from fellow travelers. However, upon arrival, she observed a mix of tourists, including happy families at restaurants, honeymooning couples, and children enjoying ice cream. Despite acknowledging the presence of tourists, Schillinger expressed a desire to return to Liguria even before leaving, emphasizing the appeal of the region.

**The guardian, april 2014:** In the spring of 2014, The Guardian dedicated an extensive feature to the Cinque Terre titled "Cinque Terre: On the Trail of Italy's Famous Five," now referred to as "the famous five" in the headline. Suzy Bennett explored the Ligurian villages that were recovering after the devastating flood of 2011. Starting in Vernazza, which had been overwhelmed by water, land, and mud, she witnessed the repairs of houses, reopening of businesses, repaving of streets, and reconstruction of the chapel.

Bennett described Vernazza in the late afternoon as a perfect representation of Italy. As tourists departed, the scene became impeccable—a Hollywood-like film set embodying every beautiful and romantic Italian cliché. Vineyard caretakers tended to their vines, farmers in flat hats gathered in the square to talk and smoke, a restaurant cooked pizza over a wood fire, the local florist burst into spontaneous lyrical singing, and a couple kissed on a street corner. The atmosphere was so romantic and iconically Italian that it seemed surreal.

**Secolo XIX, July 2015:** In 2015, an idyllic relationship between the Cinque Terre, foreign tourists, and the media was disrupted by a petition titled "Save the Cinque Terre from mass tourism." The petition, initiated on Change.org, aimed to halt the influx of tourists, particularly cruise ship visitors, who were causing issues such as overcrowded trains, confused crowds, and irritation among the local population. The petition highlighted the unsustainable consequences of mass tourism on the Cinque Terre, including

congestion in small villages, blocked public transportation, and the accumulation of difficult-to-dispose-of waste. Only 1,500 people initially signed the petition, but it emphasized the urgent need for intervention from the National Park of the Cinque Terre and the Mayors of Riomaggiore, Vernazza, and Monterosso. The petition sought to control and limit the entry of large tourist groups to ensure the survival of these unique villages and maintain the delicate environmental balance. The ultimate goal was to achieve sustainable tourism that would not negatively impact the Cinque Terre, urging global support to emphasize the severity of the situation and compel action to protect the villages for future generations.

**Internazionale, October 2016 :** The article discusses the need for sustainable tourism in the Cinque Terre region after a flood. In 2016, Internazionale reported on the closure of Lover's Lane for four years due to a coastal collapse. Although a portion of the area had been reopened with funding from the State Railways and the Liguria region, it was deemed insufficient. The focus was on accommodating the large number of tourists, particularly the 300,000 brought by Trenitalia to Manarola annually.

The article highlights tourism statistics from 2016, indicating a significant influx of visitors and cruise passengers, with a high occupancy rate in hotels and B&Bs, primarily by foreign tourists. Despite being a vital Italian brand internationally, the Cinque Terre faced challenges due to limited public personnel responsible for preserving the territory and ensuring safety.

The contradiction arises from the unsustainable nature of tourism in the region, stressing the strain on resources and safety concerns. However, it also acknowledges the economic benefits for local businesses such as hotels, restaurants, B&Bs, and second-home owners. The article suggests the urgency of transitioning towards sustainable tourism practices in order to balance economic interests with environmental and safety considerations.

**La Repubblica, June 2017:** In May 2017, Repubblica reported that the Cinque Terre would implement a restricted access system on its trails starting from June 1st. To address the challenges posed by the increasing number of tourists, the Cinque Terre Card was introduced, requiring visitors to purchase it for access. The card, available online, aims to reduce congestion, facilitate trip planning, and provide real-time information on trail conditions through the 'fermaflussi' app. The Park, in collaboration with the University and Hydrogeological Studies Centre, analysed trail flow data to protect the fragile territory. The urgency arose from the surge in visitors during Easter 2017, with 95,207

people recorded in April alone. The Cinque Terre, a globally recognized beauty, faced the challenge of balancing tourism growth and environmental preservation. The Park's president emphasized the opportunity to serve as a model for other destinations and outlined the goal of directing tourist flows efficiently. The primary objective is to rationalize numbers to ensure the sustainability of the territory, particularly in narrow sections. The introduction of a code of conduct and the online purchase option for the Cinque Terre Card aim to encourage responsible tourism and trip planning. The overall approach seeks to instil a cultural shift towards a slower and more respectful visitation experience.

**Corriere della Sera, June 2017:** The Cinque Terre has become the fourth most popular tourist destination in Italy, attracting a significant number of Chinese visitors. In 2017, three million people visited the Cinque Terre, with a notable influx from China. The villages have gained popularity through factors such as fashion trends, word of mouth, foreign tour operators, and strategic partnerships. The Chinese tourists, often incorporating the Cinque Terre into their European itineraries, are drawn by the picturesque landscape and unique attractions. Despite the small local population, the villages accommodate a large number of tourists, and efforts have been made to provide information and services in Mandarin. The success of the Cinque Terre as a brand is evident, with its name featured prominently in various travel packages and tour itineraries globally, showcasing the power of effective branding in the tourism industry.

**CNN, February 2018 :** In 2018, CNN identified the Cinque Terre as one of the destinations to avoid for the upcoming summer, labeling it among the "12 destinations that travelers might want to avoid in 2018" due to issues related to excessive tourism. The report highlighted problems such as overcrowding, long waits, damage to the ecosystem, and the negative impact of cruise ships unloading large numbers of visitors who do not contribute to the local economy. The mayor of Vernazza, Vincenzo Resasco, acknowledged the long-standing issues and efforts to address them, emphasizing the ongoing attempts to find a balance and manage visitor flows without resorting to bans or closures. Despite the challenges, Mayor Resasco expressed confidence in changing CNN's opinion before the summer by implementing effective measures.

**La Repubblica, April 2019:** In 2019, the tourism situation in the Cinque Terre region worsens, marked by overcrowding and safety concerns. Despite attempts by local authorities, such as the mayor of Riomaggiore, Fabrizia Pecunia, to implement measures like a "maximum capacity" for the area, tourist trains, specifically the Cinque Terre Express, continue to unload visitors beyond the established limits. Frustrated mayors, including Vincenzo Resasco of Vernazza, issue warnings against visiting the

Cinque Terre due to the overwhelming influx of tourists. The president of the region, Giovanni Toti, organizes a technical committee to address the problem, and the National Park deploys various operators to manage the situation, including members of the National Carabinieri Association, voluntary ecological guards, alpine rescue, and the Italian Alpine Club. Despite these efforts, the challenge persists, with concerns raised about the impact on the territory's integrity, residents' quality of life, and the safety of tourists.

**La Repubblica, July 2019:** A few months later, it is still Repubblica that recounts that the mayor of Riomaggiore, Fabrizia Pecunia, has issued an innovative ordinance that provides for a crowd alert, imposing on the railways, for security reasons, a maximum number of people that can stay in the station area. Hence, reservation trains with controlled flows. The Railways appealed to the Tar. The ordinance was rejected on procedural grounds, but the ruling established that safety prevailed over free movement.

**Il Secolo XIX, April 2020:** The text describes significant changes in 2020 due to the Covid-19 pandemic, particularly affecting the tourism industry in Italy. The closure of borders, restrictions on movement within the country, and the forced closure of many businesses led to a collapse in the tourism sector. Five villages, previously bustling with tourists, became silent and deserted in the spring, a stark contrast to the usual hectic atmosphere during the Easter holidays. The article mentions that local associations and tourism-related organizations are actively working to plan for the post-Covid-19 era, anticipating a radical transformation in the tourism sector comparable to the impact of the internet and the events following September 11, 2001.

**La Repubblica, February 2021:** With the resumption of tourism (hoped for but still to be confirmed), the weekly magazine of La Repubblica, *Il Venerdì* reflects on the summer future of the Cinque Terre, which risks, or hopes, to be stormed, or respectfully honoured, by the global audience that will see Luca. The animated film by Pixar, directed by Enrico Casarosa, a Genoese who used to vacation in the eastern Ligurian region as a child and later found success in America, is set in the Cinque Terre.

**La Repubblica, August 2022:** In 2022, there has been a significant increase in tourism, especially during the mid-August holiday, with ticket sales reaching 660,000, equivalent to the figures in 2019 for an entire year. Trekking Card sales have also risen from 90,000 to 120,000 in the past three years. To handle the surge in visitors, the park authority installed 5 new people counters with automatic data transmission technology, sparking debates about potentially limiting visitor numbers. Some administrators oppose the idea, citing economic benefits, while others support it. Mayor Franco Villa is hesitant about restrictions, emphasizing tourism's economic advantages for local businesses.

Ongoing discussions may yield solutions from a study commissioned by the Minister of Tourism, but potential changes due to political shifts are acknowledged. Park President Donatella Bianchi, however, is not very concerned, noting a shift in tourist demographics. She argues against a fixed visitor number, suggesting that flows should be managed across the 120 kilometers of the Park's trails, including those in disuse, to ensure accessibility and address hydrogeological instability concerns.

**Il Secolo XIX, November 2022:** In 2022, there has been a noticeable surge in tourism, particularly during the mid-August holiday, with around 660,000 tickets or passes purchased, equivalent to the figures in 2019 over a full year (Fig. 20). The sales of Trekking Cards have also risen from 90,000 to 120,000 in the past three years. To manage the increased visitor numbers, the park authority has deployed 5 new people counters with automatic data transmission technology. This has sparked debates about potentially limiting the number of visitors, with some administrators opposing the idea while others support it. Mayor Franco Villa of Vernazza expresses hesitancy about limiting visitors, emphasizing the economic benefits tourism brings to local businesses. Discussions are ongoing, and there is hope for solutions from a study commissioned by the Minister of Tourism, though potential changes due to political shifts are acknowledged.



Fig. 20: Entrance to Via dell'Amore from Riomaggiore station. Source: il Secolo XIX, 2022.



**La Repubblica, April 2023:** In a recent interview, Maurizio Maggiani, a writer from La Spezia living in Romagna, reignited the debate on tourism in the Cinque Terre. He criticized the economic and existential choices of the community, blaming the creation of the park for attracting mass tourism without regard for the territory's preservation. Maggiani highlighted past agreements to attract the Chinese market and lamented the transformation of Cinque Terre into a tourist hotspot. He praised Bonassola as a balanced example, contrasting it with Cinque Terre's issues, such as overcrowding, selfie-taking tourists, and the detrimental impact of cruise passengers. Maggiani's stance is supported by two out of three Cinque Terre mayors, who hope for a national law to protect their communities from the negative effects of tourism, including cruise companies and tour operators. They emphasize the need for legal coverage to defend their constitutional right to regulate movement and address the challenges posed by changing governments.

**La Repubblica, May 2023:** The debate on tourism in Italy's Cinque Terre region is reignited, with local mayors expressing concerns about overcrowding and loss of cultural identity due to excessive tourism. Monterosso's mayor, Emanuele Moggia, calls for a national law to regulate tourist numbers, particularly targeting organized buses and cruise passengers. He states that "Large companies don't listen to reason; they aim to maximize profits. That's why we ask for a national law that gives us tools to interact with tour operators selling packages or companies like Msc and Costa that plan landings even three years in advance. Without a law, the municipality or the park doesn't have the means to say 'I'll allow one group instead of three'". Riomaggiore's mayor, Fabrizia Pecunia, advocates for a law to extend tourists' stays, emphasizing the need to preserve cultural identity. She says "if we lose our cultural identity, we are finished. The choices made back then were also social and cultural, and today I struggle to convince my fellow citizens and convey a certain message. But it is a consequence of historical decisions." On the other hand, Vernazza's mayor, Franco Villa, credits tourism for economic benefits but suggests reducing train frequencies to manage crowds. The president of the National Park of Cinque Terre, Donatella Bianchi, calls for a comprehensive national law to manage tourism, turning the Cinque Terre into a "national laboratory" for sustainable tourism practices. She emphasizes the importance of coordinating efforts with major stakeholders and implementing measures like forest carabinieri to monitor trail entries and enforce regulations. The goal is to anticipate, organize, and regulate tourist flows while preserving the unique cultural and environmental aspects of the region.

**Corriere della Sera, July 2023:** The theme is then addressed by Corriere della Sera, which in July publishes the article "Tourists, in Italy and Europe, it's a boom: are there too many? Why is 'overtourism' a problem." The article examines various situations in Italy

where tourism has made life difficult for host communities, with a focus on the Cinque Terre.

For the municipalities of the Cinque Terre in Liguria, there is also the hypothesis of establishing a closed number to limit access to the small villages. There is already a limit on entries for the Via dell'Amore, a pedestrian path overlooking the sea that connects Riomaggiore and Manarola: reservations are required to access it. In April, the 'no parking for selfies' ban established by an ordinance from the mayor of Portofino to prevent overcrowding in the Piazzetta and the pier during the high season sparked a lot of discussion.

**Il Secolo XIX, September 2023:** The problem of overtourism in the Cinque Terre, however, is far from being resolved (Fig. 21). According to Patrizia Spora in *Secolo XIX*, the squares, harbors, and narrow streets are constantly overwhelmed, and merchants report that this situation is expected to continue at least until November. Gianni Capellini, president of the InManarola association, expresses concern, stating, "We have too many people together, and the territory cannot handle it. In villages with just over two hundred residents, about four thousand visitors arrive every day."

Capellini advocates for working to ensure the well-being of both residents and tourists, whether they are staying overnight or visiting Cinque Terre for the day. The goal is to leave visitors with a positive impression of their vacation and encourage them to return. He stresses the importance of looking beyond the present and focusing on building a sustainable tourism model for the future.



Fig. 21: Crowd of tourists at Manarola station. Source: *Il Secolo XIX*, 2023.

## 4.2 CINQUE TERRE SUSTAINABLE PLAN FOR TOURISM

The Cinque Terre National Park, renowned globally as a tourist hotspot are struggling to accommodate the annual influx of more than 3.5 million visitors in an area with a population of approximately 3,800 inhabitants. Despite evident signs of strain, there has been a lack of implementation of effective measures to address the prevailing economic paradigm, which prioritizes the maximization of tourism.

The Cinque Terre are five colourful villages (Monterosso (Fig. 23), Vernazza, Corniglia, Manarola (Fig. 22), Riomaggiore) grouped in three municipalities overlooking the sea of the Riviera Ligure di Levante. In 1997, the Cinque Terre earned a coveted spot on the UNESCO World Heritage List as a 'cultural landscape,' marking it as one of the pioneering sites in this classification. Subsequently, in 1999, the Cinque Terre National Park was established to manage and safeguard this distinctive territory. These milestones, occurring in the late 1990s, propelled the site to international acclaim, solidifying its reputation as a premier tourist destination.

The distinctive charm of the Italian coast, particularly the Ligurian Riviera, faces peril from extreme weather events, heedless land exploitation, and unchecked tourism. Preserving this precious heritage of beauty and biodiversity demands a re-evaluation of the intricate balance between tourism and environmental conservation by public authorities. The constantly increasing flow of tourists has seriously threatened the economic, ecological and cultural balance of the park, generating episodes of conflict between inhabitants and visitors. In particular, to move from one village to another, visitors have to take the train due to the lack of road connections because of the special orographic configuration of the place. This leads to an untenable situation especially in the high season, when trains and stations are overcrowded and the inhabitants are hostages in their homes. In low season, on the other hand, everything closes, and those who live in the three municipalities of the park have to travel even just to buy food.

If managed correctly, tourism can be a good ally for the preservation and simultaneous growth of a destination. However, it is essential to move from a quantitative growth model to a quality model that leads to sustainable development.

To achieve this goal, it is necessary to have planning tools that promote actions for sustainable and responsible tourism. For this reason, this research proposes the application of the Sustainable Tourism Plan model to the Cinque Terre National Park, one of the main Italian destinations suffering from overtourism. The case of Cinque Terre is even more emblematic from a naturalistic perspective compared to other Italian destinations, such as Venice and Florence, which have long struggled to manage large tourist influxes, as it is located within a natural park.





Fig. 22 and Fig. 23: Manarola and Monterosso. Source: author.

#### 4.2.1 Background, Cinque Terre National Park STP

- **Global and national tourism trends and data**

Tourism has become a global phenomenon, playing a pivotal role in economic development (Pulido-Fernández and López-Sánchez, 2011). Factors such as greater international connectivity, increased geographical mobility, affordable air travel, and growing income levels worldwide suggest that tourism is poised to serve as a crucial driver of economic expansion.

However, the exponential growth of the tourism industry has raised concerns about its impact on the environment and local communities. Sustainable tourism seeks to address these concerns by promoting responsible practices that minimize negative effects while maximizing positive contributions (McMinn, 1997; Niedziółka, 2014; Amerta et al., 2018). The imperative of sustainable tourism is underscored by its holistic approach to balancing economic, environmental, and socio-cultural considerations. As the global tourism industry continues to evolve, embracing sustainability is not merely an option but a necessity. The adoption of responsible tourism practices is crucial for safeguarding the planet, preserving cultural heritage, and promoting inclusive socio-economic development, ultimately ensuring a harmonious coexistence between tourism and the environment.

With regard to the national level, Italy stands as a premier global tourism hotspot, boasting an impressive 47 UNESCO World Heritage Sites, surpassing all other nations. Its prominence extends to international tourism metrics, where Italy holds the fifth position both in terms of tourist arrivals and tourism receipts globally (UNWTO, 2022). Notably, Italy secures the second spot globally for accommodation capacity, trailing only behind the United States.

Tourism in Italy has rebounded to the levels observed in 2019. The Bank of Italy's survey on international tourism, states that foreign travellers' spending in Italy more than doubled in 2022 compared to the previous year, nearly reaching pre-pandemic levels. However, when adjusted for inflation, the expenditure remains approximately 10 percent lower in real terms. Both EU and non-EU travelers played an equal role in fuelling the growth of Italy's tourism revenues. Notably, non-EU travellers, particularly those from the United States and, to a lesser extent, the United Kingdom, made a substantial contribution to this upswing. Holiday travel expenditures were predominantly steered by cultural exploration and visits to art-centric cities, segments that had experienced the most significant setbacks during the pandemic. Furthermore, there was a notable surge in expenditures related to business travel.

- **General problems and opportunities related to tourism**

The tourism industry in Italy holds paramount importance, impacting not only the economic landscape but also playing a crucial role in shaping the social fabric of the country. With around 1.4 million individuals employed in this sector, it boasts 33,000 hotel establishments and 183,000 non-hotel establishments, according to the latest data from ISTAT in 2022. Tourism is predominantly drawn to cultural attractions, with Rome taking the lead, closely followed by Florence and Milan (Smith, 2015).

Although Italy holds significant importance in the global tourism industry, it has been infrequently featured as a subject of study in international tourism literature (Formica and Uysal, 1996; Mazzocchi and Montini, 2001; Cucculelli and Goffi 2015).

Recently, research on Italian destinations has gained attention, but most studies have focused on regional or national levels, neglecting analysis at the destination level (Cracolici, Nijkamp, 2008; Guizzardi Mazzocchi, 2010; Massidda, Etzo, 2012). Limited empirical work on small tourism destinations and a scarcity of Tourism Destination Competitiveness (TDC) research on small towns or villages are evident in international literature.

The majority of existing studies primarily examine competitiveness at the country or group level, often overlooking smaller destinations (Bahar, Kozak, 2007; Mazanec et al., 2007 ; Gomezelj, Mihalic, 2008 ; Chen and Lee 2010). Studies have explored single countries or groups, islands, large cities, specific destination types, resort destinations, and regions or provinces (Zhang et al., 2011). However, the town level, especially in Italy, remains largely unexplored.

Italy boasts numerous tourist sites, including medieval villages, historic churches, museums, and archaeological sites spread across the country. Small destinations on the mainland and seaside exhibit strong performance and high growth potential, enriched by history and culture. Despite these strengths, they face challenges such as inadequate management, limited marketing support, lack of policies and regulations, deficient infrastructure, and often subpar accommodation facilities. This situation hampers their overall development and competitiveness in the tourism industry (WEF, 2013; OECD, 2011).

Tourism in Italy has long been celebrated for its cultural richness, historical significance, and breath-taking landscapes. However, the industry is facing a myriad of challenges that threaten the sustainability of this vital sector: over-tourism, environmental degradation, cultural preservation, and the economic impact on local communities. By

examining these challenges, we aim to shed light on potential solutions and strategies to ensure the long-term viability of tourism in Italy.

However, in Italy, the challenges associated with overtourism, characterized by environmental, social, and economic disruptions stemming from an overflow of tourists, remain unaddressed. This widespread issue is fuelled by the unregulated proliferation of platforms like Airbnb, the lack of responsible tourism policies, and speculative administrative and entrepreneurial practices. Over-tourism not only diminishes the quality of experience for visitors but also poses a threat to the well-being of local communities. In the absence of adequate policies and plans, Italian municipalities are left alone and respond as they can to curb the phenomena of overtourism. In Venice, the local administration has opted to enforce fresh regulations governing entry to the lagoon, constraining access through the implementation of an entrance fee. Comparable actions have been initiated in Alto Adige and the Dolomites. Globally, authorities are finally initiating measures to curb overtourism, short-term rentals, and the overwhelming influx of tourists, focusing not on expanding accommodations but rather on constraining access opportunities. In Venice as well as in Florence there are also restrictions on eating snacks in certain areas.

Portofino (Genoa) is implementing strict measures to curb the negative impact of mass tourism. The new legislation imposes fines of up to €275 for tourists obstructing traffic or pedestrians in designated "red zones." A ban has been introduced in the Cinque Terre Park to avoid inappropriate footwear on the hiking paths. In Rome there is a new fine for sitting on Rome's Spanish Steps. Eraclea (Venice) bans on building sandcastles on a beach to facilitate transit along the waterfront.

While Italy has a rich history of tourism, attracting 65 million visitors annually before the COVID-19 pandemic, the country is grappling with the downsides of overtourism. This surge in tourism threatens the authenticity and simplicity of destinations like the Cinque Terre, which originally captivated visitors with their serenity, ingenuity, and natural beauty. The environmental impact of tourism in Italy is a growing concern above all on coastal area where threats such as erosion, pollution, and habitat destruction are quite evident. Sustainable practices must be implemented to mitigate these effects and preserve Italy's natural beauty for future generations.

Interesting in this respect is a recent study done by Deloitte in collaboration with AICEO (Italian CEO Association) that reveals a growing interest among Italian tourists in sustainable travel and certified green services. Conducted between summer and fall 2022, the research involved Italian consumers and industry operators to assess the impact of sustainability on the Italian tourism sector. The findings show a shift in values



among Italian consumers, with 64% considering environmental and sustainability factors in their travel decisions, rising to 71% for those under 35.

Sustainable tourism is strongly linked to protecting the territory (60% of respondents) and reducing environmental impact through eco-friendly transportation (52%). A significant 75% believe that the growth of sustainable tourism is crucial for Italy's transition to widespread ecological transformation.

The study also highlights a preference for local tourist destinations, with 63% of respondents favouring proximity tourism to rediscover villages within their own country. "Traveling like a local" is seen as a way to support the local economy, with preferences for restaurants offering locally sourced products (45%) and local tour operators conducting eco-friendly excursions (41%). Notably, a majority of Italians express willingness to pay a premium for sustainable services, with around 50% willing to spend up to 10% more, and 20% willing to go up to 15-20% more, contingent on accurate information about the initiatives of sustainable operators.

The study emphasizes the need for effective communication from the tourism sector about its commitment to sustainability. A majority (77%) of tourists feel that online booking sites and travel agencies should improve the indication of structures with sustainable certifications to aid decision-making. However, only 30% claim to easily find information on the sustainable practices of hotels or transportation. Respondents express a desire for a sustainable tourism portal, with 68% finding it very useful as a centralized reference point. Additionally, 47% consider the availability of information on Environmental, Social, and Governance (ESG) policies when choosing accommodation. Overall, the study underscores the importance of transparent communication and easily accessible information in promoting sustainable choices within the tourism industry.

Interesting are also the results emerged during the Sustainable Tourism Forum 2022 held in Padua. This meeting, organized by the Gstc Italy Working Group, highlighted key trends in sustainable travel: emphasizing growing interest in ecotourism, support for local communities, preference for eco-friendly accommodations, and a renewed focus on trains for long-distance travel (Sustainable Tourism Forum, 2023). The forum revealed a shift in Italian consumer values attributed to the climate crisis, with sustainable travel gaining significance. Data presented indicated that 64% of tourists consider environmental factors in travel decisions, rising to 71% among those under 35, indicating heightened awareness among the younger demographic.



- Overriding legislation and policies

**UNESCO:** In 1997, the World Heritage Committee chose to include the Porto Venere, Cinque Terre, and the Islands (Palmaria, Tino, and Tinetto) on its prestigious list, citing criteria (II), (IV), and (V). The decision was influenced by the recognition of the Ligurian Riviera of Levante, situated between Cinque Terre and Porto Venere, as an exceptionally valuable cultural site exemplifying the harmonious coexistence of humanity and nature. Designated by UNESCO, the site is situated in the southeast of the Liguria region, covering 4,689 hectares over a stretch of 15 km. It encompasses areas in the municipalities of Levanto, Monterosso al Mare, Pignone, Vernazza, Riomaggiore, La Spezia, and Porto Venere (Fig. 24).

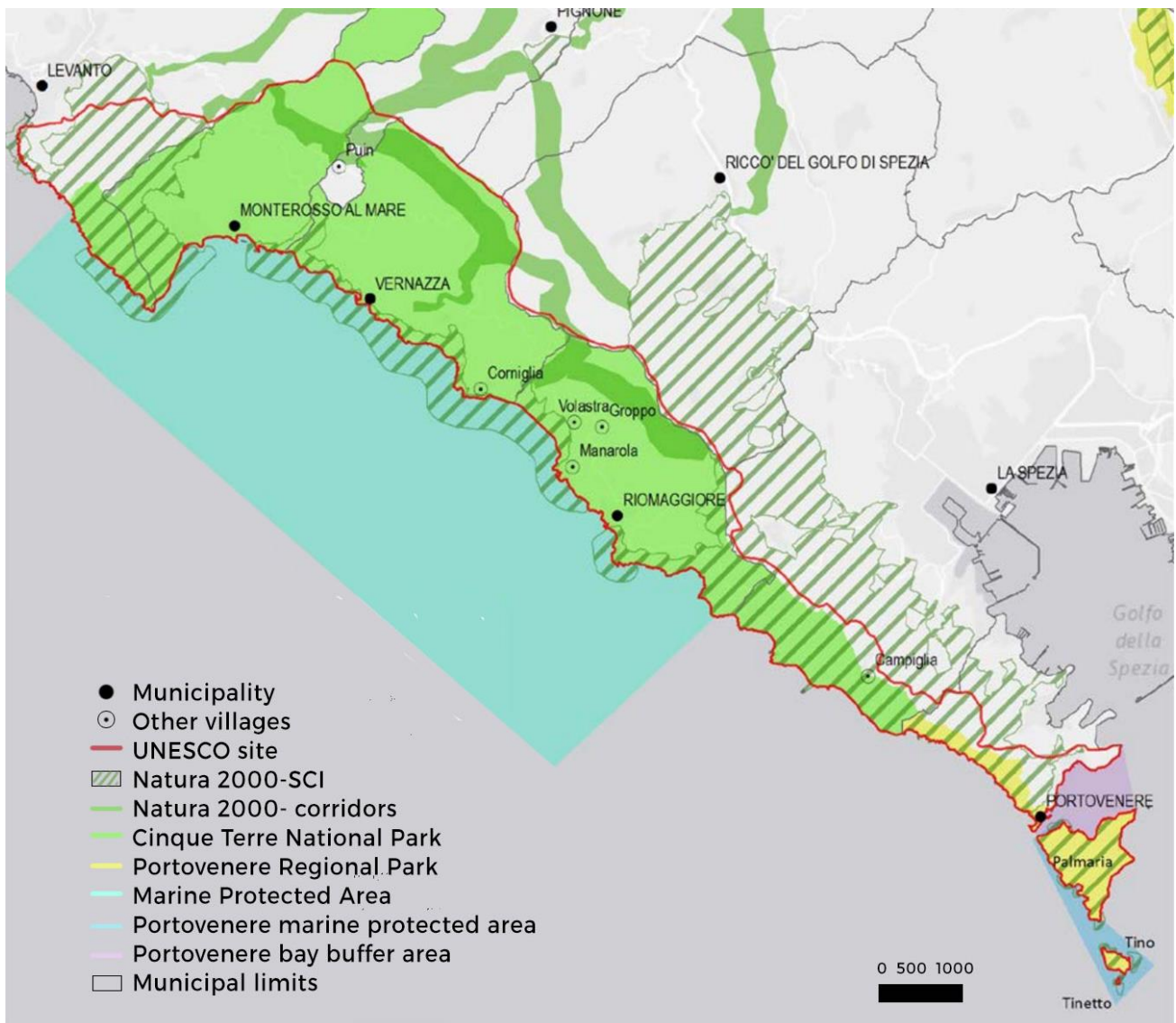


Fig. 24: Map of the UNESCO site and protected land and marine areas.  
 Source: Reprocessed from the Management Plan of the UNESCO site, 2015.

Specifically, the criteria that led to the recognition of the site as a World Heritage Site are:

- Criterion II - The Ligurian Riviera of Levante, spanning between Cinque Terre and Porto Venere, stands out as a cultural site of extraordinary worth, illustrating a traditional way of life that has persisted for over a millennium. It continues to play a significant socio-economic role within the local community.
- Criterion IV - The Ligurian coastal region, extending from Cinque Terre to Porto Venere, serves as an exceptional example of a landscape where the historical stratification of small villages, ingeniously adapted to the sea, and the formation of terraces overcoming the challenges of steep terrain, narrate the uninterrupted history of human settlement in this region over the past millennium.
- Criterion V - Porto Venere, Cinque Terre, and the Islands (Palmaria, Tino, and Tinetto) collectively form a remarkable cultural landscape shaped by human endeavors spanning more than a thousand years in a rugged and visually striking natural setting. It embodies the harmonious interaction between humans and nature, resulting in a landscape of exceptional scenic quality.

The rugged coastal landscape, characterized by steep terrain, has been extensively developed with stone terraces for cultivating vines and olive trees. Access to the area was historically challenging until the construction of the Genoa-La Spezia railway in 1870.

The site, spanning from Punta Mesco to Punta Persico, encompasses Porto Venere, three islands, and the Cinque Terre villages. Dry stone walls, dating back to the 12th century, symbolize communal agriculture, showcasing collaborative efforts within communities. The terraces support diverse insect and animal species, surrounded by natural scrubland. Local communities adapt to the challenging environment in compact settlements with distinct stone-roofed structures. The Cinque Terre villages, dating to the late Middle Ages, include Monterosso al Mare, Vernazza, Corniglia, Manarola, and Riomaggiore. Portovenere, with Roman roots, features archaeological remains and the historic Doria Castle. The islands Palmaria, Tino, and Tinetto offer natural beauty and monastic remnants. The coastal landscape, shaped over centuries, reflects the enduring interaction of communities with their environment. Diligent maintenance of stone walls has allowed agriculture to thrive, contributing to the property's outstanding universal value. Tourism activities and terrace recovery programs have facilitated the restoration of vineyards and olive groves, along with improvements in wine marketing activities.

Initially lacking a management plan, the UNESCO site has gained additional protection through national and regional parks and various planning regulations. The UNESCO Management Plan, although not mandatory, aims to harmonize existing and future legislation while aligning with international agreements and Italian principles. The Program Agreement, based on Italian regulations, serves as the cornerstone for collaboration among multiple entities involved in site management.

The agreement outlines commitments and priority actions for each signing entity to safeguard the Outstanding Universal Value of the site. Emphasizing a participatory approach, the Management Plan engages various stakeholders, including the local population, in defining a vision, identifying strengths and weaknesses, proposing projects, and involving local institutions. The focus is on conserving a cultural landscape with natural fragility, addressing challenges such as territory abandonment and declining social capital.

The plan's long-term vision centers on preserving the social capital of the UNESCO site, promoting local economies, ensuring territorial security, and caring for the landscape. Objectives include enhancing cohesion, identity, and integration; improving managerial and administrative effectiveness; considering territory, environment, and agriculture; and managing the impact of tourism on the site. The overarching goal is articulated as "The conquest of a living landscape, with one inhabitant for each house and one farmer for each terrace" (LINKS Foundation, 2020).

To succeed in this, the plan sets a number of objectives: greater cohesion, identity and integration; improvement of management and administrative effectiveness; land, environment and agriculture; spatial planning and vulnerability; and spatial planning and tourism.

With regard to the tourism objective, the subject of the PTS, the UNESCO Site Management Plan proposes to:

1. Aim for a more sustainable tourism for the territory, better prepared and aware of the values and fragilities of the site;
2. Set up an integrated and coordinated monitoring and management system of tourist and accessory flows and services with respect to accommodation;
3. Build a virtuous circle between agriculture, catering and tourism
4. Train the territory for better reception.

For the tourism objective, the plan also contains a series of projects (Tab.24). Interestingly, for the first time, the need for a project that is able to calculate the tourism

carrying capacity is mentioned. Unfortunately, this project, according to the latest 2020 version of the Management Plan, is still being defined.

Project Progressive number	MANAGEMENT PLAN OF THE UNESCO SITE OBJECTIVE: TOURISM
34.	Palmaria Island Enhancement Program
35.	Restoration of defensive and lookout structures within the UNESCO site
36	Accessibility and enhancement project for geosites, including virtual visits
37	Tourist Carrying Capacity Project (Project still in the definition phase)
38	Establishment of a permanent discussion forum on tourism
39	Creation of an integrated system for the tourism sector (communication, hotel booking, booking services for site visits and experiences, regulation of site access via buses)
40	Sustainable Tourism Management

Tab. 24: Project related to tourism in the UNESCO site management plan.

Source: Reprocessed from LINKS Foundation, 2022.

**EUROPE :** Article 195 of the Treaty on the Functioning of the European Union underlines that the “Union shall complement the action of the Member States in the tourism sector, in particular by promoting the competitiveness of Union undertakings in that sector”. The EU, therefore, encourages the creation of a favourable environment and promotes cooperation between EU countries.

On 1 December 2022, the Council of the European Union adopted the European agenda for tourism 2030. The agenda is based on the Commission’s transition pathway for tourism and includes a multi-annual work plan with actions to be taken by the EU countries, the Commission and tourism stakeholders.

“In launching its new industrial strategy in 2020, the European Commission looked to lay the foundations to support the twin transition to a green and digital economy, and to make industries across the European Union more competitive globally. Here the term green transition is taken to mean a shift towards economically sustainable growth and an economy that is not based on fossil fuels and the overconsumption of natural resources, while the term digital transition means the move towards integrating digital technology into all areas of an organisation” (Jones, 2023).

The Agenda addresses five key focus areas: the green transition, digital transition, resilience and inclusion, skills and support, and the development of an enabling policy

framework and governance. Each priority encompasses specific actions, including initiatives to diversify tourism services across seasons and locations, minimize environmental impact, and enhance the accessibility of tourism. Additionally, a pivotal goal of the Agenda involves meeting the skills demand within the tourism ecosystem through the implementation of the Pact for Skills, a collaborative model aimed at fostering skills development.

The intertwining of the green and digital transitions is widely acknowledged as a pivotal force in ensuring a sustainable future for both people and the environment. The green transition emerged from the consensus that it is imperative to swiftly detach economic growth from environmental degradation, with the aim of addressing climate change and alleviating poverty. Concurrently, the digital transition has evolved as businesses recognize the manifold economic advantages stemming from the integration of digital technologies. For instance, Rehman et al. (2023) asserted that the European Commission is actively working towards fostering a sustainable future. They highlighted the Commission's commitment to leveraging digital technologies as a means to propel a green future. This initiative involves systematic transformations, wherein the concept of twin transitions is introduced. This term encapsulates the idea of a conjoined and simultaneous shift towards both green and digital aspects, strategically aimed at mitigating companies' carbon footprint.

**ITALY:** At the national level, two different instruments are described that have an impact on the study area: the National Tourism Plan and the Cinque Terre National Park Plan.

**National Tourism Plan-** In 2021, a new Ministry of Tourism was established to oversee national strategic coordination, development plan implementation, promotion of tourism initiatives, assistance mechanisms for tourists, and innovation leadership. The Italian Budget Law for 2022 introduced the Unique National Tourism Fund (FUNT) with a budget of EUR 120 million for 2022-23 and EUR 40 million for 2024.

In 2017 Italy adopted the Strategic Plan for Tourism: a six-year time horizon tool based on a new, national "organised system" for improvement of tourism competitiveness in Italy. The competent central government and regional administrations, together with Italian tourism operators contribute to definition of the plan. The Plan aims to promote a new method of using Italy's heritage in tourism, based on renewal and expansion of tourism supply of strategic destinations and enhancing new destinations and new products, in order to generate economic, social and sustainable benefits.

The Plan's strategies, objectives, and interventions are guided by three key principles: sustainability, innovation, and accessibility/cultural permeability. The focus is on

systematically enhancing the sustainability of tourism across environmental, cultural, and socio-economic dimensions. Additionally, the Plan aims to foster innovation in tourism products, processes, and technologies, while promoting digital advancements and integrated governance. Furthermore, the emphasis is on ensuring accessibility for all, irrespective of age or health, and cultural permeability, allowing visitors to comprehend and appreciate the history and diversity of the heritage they explore.

The plan outlines general objectives aligned with a vision, focusing on four major goals:

- 1) Innovate, specialize, and integrate the national offering.
- 2) Increase competitiveness of the tourism system.
- 3) Develop an effective and innovative marketing strategy.
- 4) Establish efficient and participatory governance for formulating and defining the plan and tourism policies.

Specific targets are set for each general objective, with detailed breakdowns into relevant sub-objectives. Implementation of the plan is organized through Annual Implementation Programs, specifying organizational details, actors involved, timing, costs, and financial sources. Priority is given to actions with immediate and identified financial resources.

The construction of each Annual Implementation Program is an ongoing process, incorporating insights and proposals received through governance tools, such as interinstitutional tables and a participatory platform. The first program draws from over 150 proposals collected during the participatory process of building the Strategic Plan, addressing critical issues and needs identified in consultations and discussions. The Permanent Committee oversees and contributes to the strategic process, potentially proposing additional actions for continuity.

The Ministry of Tourism has implemented various short-term measures, allocating over EUR 2.3 billion to address public health concerns and alleviate the economic impact of COVID-19 on the tourism sector. These measures include economic stimulus packages, fiscal relief, and income support for workers.

Italy's National Recovery and Resilience Plan (NRRP) aligns with the Strategic Tourism Plan 2017-22, aiming to address structural challenges and adapt strategies post-COVID-19. The NRRP serves as a key strategic document for the medium to long term (2021-26).

Recognizing the impact of the crisis, the Strategic Tourism Plan 2017-22 is being updated in 2022, emphasizing the need for digital transformation. The crisis revealed low digitalization levels as a hindrance to competitiveness and resilience.

The revision focuses on overcoming fragmentation in the Italian tourism ecosystem, particularly regional differences. The New Strategic Plan 2023-27 prioritizes should be:

1) Shared Governance: A collaborative model aims to enhance decision-making, ensuring continuity in emergencies. This addresses the constitutional division of tourism competence among regions.

2) Digital Tourism: Emphasizes digitalization and innovation, including the Tourism Digital Hub, with a focus on sharing transition experiences and SME support at the community level.

3) Sustainable Tourism: Promotes culturally and environmentally sustainable growth, aligning with Green Deal objectives. Involves 'proximity tourism,' sustainable transportation, circular economy models, and waste management in tourist destinations.

4) Inclusive Tourism: Encourages recovery and growth at individual and community levels, leveraging tourism as a tool for community development. Emphasizes quality in tourist products and covers various tourism types.

5) High-Level Education: Focuses on offering comprehensive training through existing and new specialized schools, covering hospitality, attraction, and tourism organization at various educational levels.

To develop the new Strategic Plan, thematic working tables involving stakeholders will be established, addressing each of the five strategic lines.

**The Cinque Terre National Park Plan- Encompassing** approximately 3,867 hectares along a 20 km stretch of coastline, the Cinque Terre National Park territory stretches from Punta Persico (at the Tuscany-Liguria border) to the westward Promontory of Mesco. Protection of the entire park area has been in effect since 1999, as mandated by the decree of the President of the Republic that officially established the Cinque Terre National Park.

The establishment of the Cinque Terre National Park took place on October 6, 1999. Despite this, progress on the crucial planning tool has remained stagnant. Although a plan was formally approved by the Regional Council on May 24, 2002, it was subsequently annulled on December 22, 2010, by the regional government of that period. This decision was prompted by a legal controversy that surrounded the

leadership of the park. The revocation resolution, while citing evolving needs for the protection and enhancement of the territory over time, emphasized the growing imperative for an updated plan.

The process for a new plan began on August 7, 2019. Due to the pandemic, progress has been slow, and to date, only a draft of the plan has been approved.

**LIGURIA REGION:** Legislative powers are vested in each Italian region, which formulates triennial plans for tourism. These plans should be structured through annual programs that delineate responsibilities, set objectives, and provide guidelines for effective tourism management.

The Tourism Plan 2020 (2017) of Liguria Region aims to define shared guidelines to bring the public and private sectors closer together, following a logic of co-participation in the strategy and development of the direct and indirect tourism economy in Liguria. It is more of an economic and marketing plan than a tool for managing tourist flows.

The Plan analyses Liguria's main strengths and weaknesses. The strengths are: steadily increasing arrivals since 2012, an average stay of 3.29 days (foreigners 2.93 and Italians 3.58); a significant increase in foreign presences; richness and variety of wine and food resources; numerous cultural and natural resources; infrastructures for outdoor sports, in particular hiking and cycling. Weaknesses are: polarisation of flows, particularly in the provinces of La Spezia and Genoa; the average length of stay for seaside tourism is decreasing; strong seasonality of flows, which are concentrated above all in the summer season and in particular in July and August; difficulties of accessibility (car, train and plane) of the region. There is also the massive presence of second-home rentals and the limited development of agritourism, B&Bs and theme hotels.

After this analysis, the plan identifies 4 strategic axes on which to intervene:

- 1) Tourism product and territorial marketing: need to coordinate the public/private relationship to identify new products and communicate them in a more appealing and effective manner;
- 2) Territorial organisation: greater involvement of the entrepreneurial fabric and local administrations in defining and implementing tourism strategies;
- 3) Promotion: better communicate the Liguria brand;
- 4) Innovation: we need to improve the destination's offer and facilitate the holiday experience by focusing on digitisation and technological innovation.



#### 4.2.2 Situation Analysis, Cinque Terre National Park STP

- Data collection of the tourist destination

**GENERAL INFORMATION:** The Cinque Terre is a rugged coastal area in the Liguria region. Cinque Terre refers to five colourful and charming villages that are built into the cliffs overlooking the Ligurian Sea. The five villages, listed from north to south, are: Monterosso al Mare, Vernazza, Corniglia, Manarola and Riomaggiore. These villages are grouped into three municipalities: Monterosso al mare, Riomaggiore and Vernazza. Each village has its own unique character, and they are known for their vibrant houses perched on the cliffs, small harbors, and narrow winding streets. The National Park of the Cinque Terre also includes a small portion within the municipality of Levanto and La Spezia. The region is a UNESCO World Heritage Site and is part of the Cinque Terre National Park. The area is characterized by steep terraced hillsides that are cultivated with vineyards and olive groves. The local economy traditionally relies on agriculture, and the residents have worked for centuries to build and maintain the distinctive terraces. Now, the predominant economic sector is linked to tourist activities. The Cinque Terre is easily accessible by train from major cities such as Florence, Pisa, La Spezia and Genoa (Fig. 25).

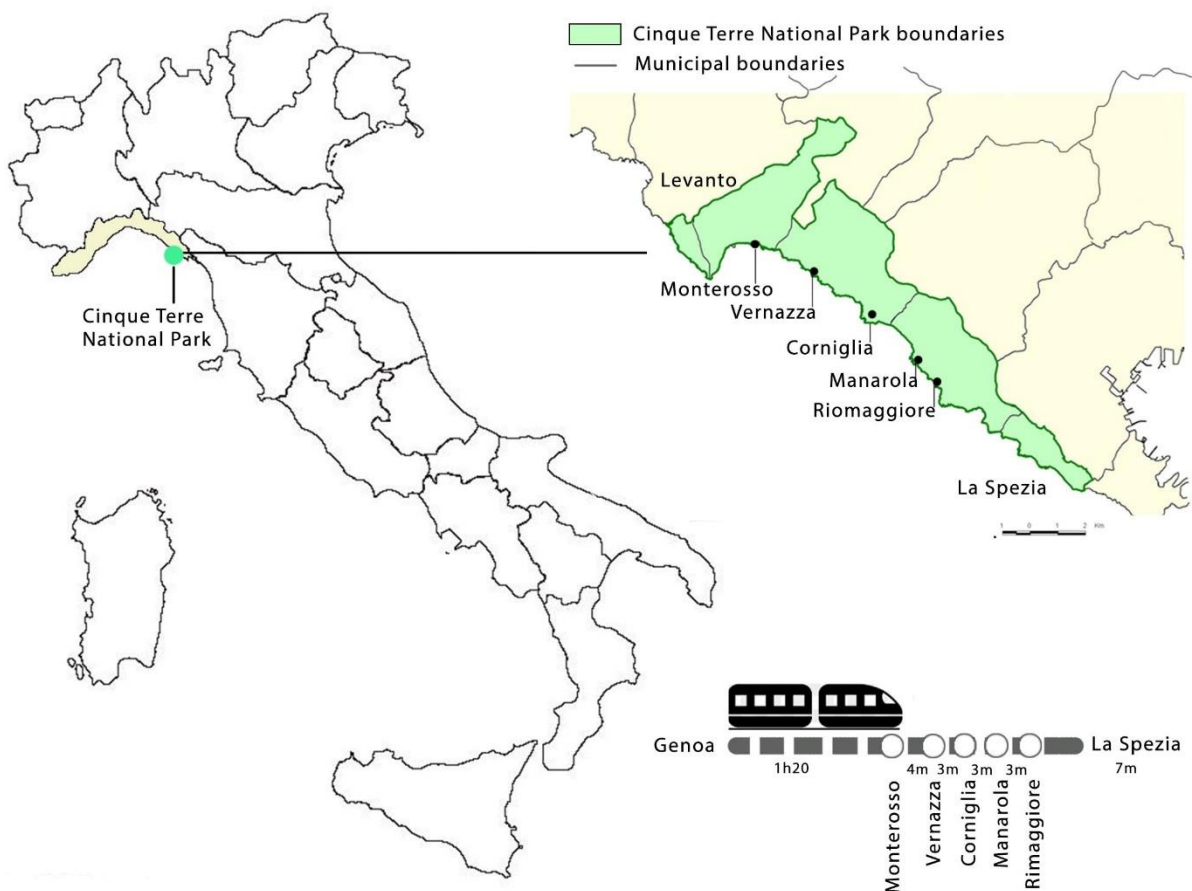
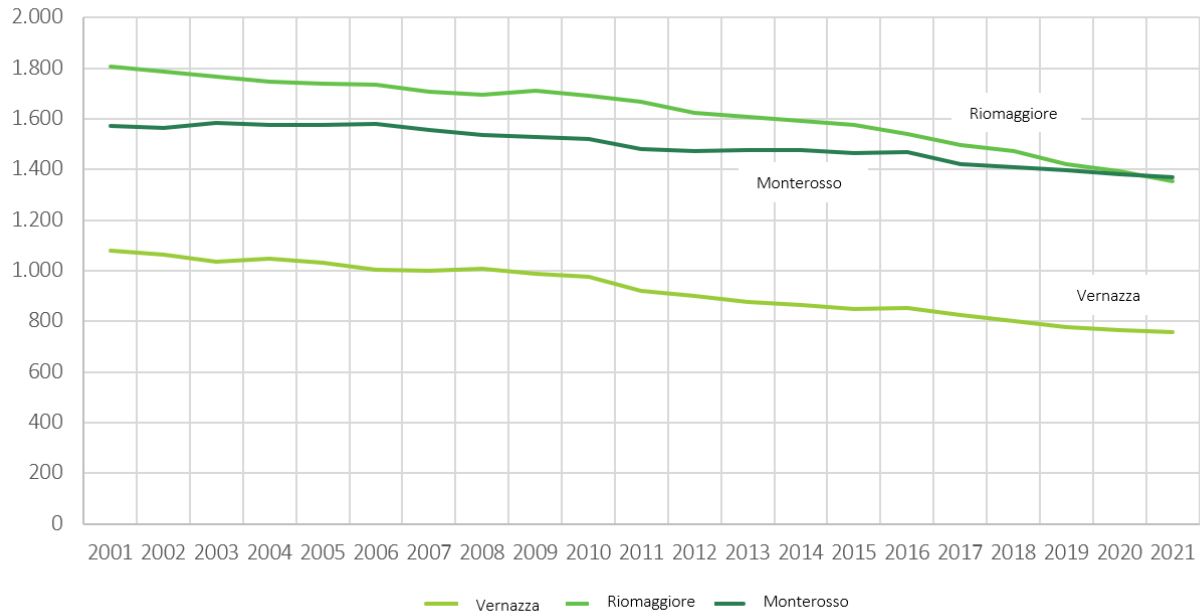


Fig. 25: General information about the Cinque Terre area. Source: author.

**POPULATION:** The population decreased in all three municipalities within the Cinque Terre National Park. The municipality that has lost the most inhabitants is Vernazza (-22.15%) followed by Riomaggiore (-20.08%). The municipality of Monterosso is the one that has seen the least decrease in inhabitants, -9.87%, about half that of the other two municipalities (Tab. 25, Fig. 26). The average value of population decrease within the park is -16.85%. All these values, however, remain very high when compared to the average percentage change in Liguria over the same period of time, where the number of inhabitants fell by 4.21% from 1.576 million in 2010 to 1.509 in 2020.

POPULATION	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Monterosso	1521	1474	1473	1479	1476	1464	1468	1422	1410	1397	1383	1371
Riomaggiore	1693	1666	1626	1610	1591	1576	1542	1496	1472	1421	1392	1353
Vernazza	975	921	899	879	864	848	852	824	800	776	766	759
Total	4189	4061	3998	3968	3931	3888	3862	3742	3682	3594	3541	3483



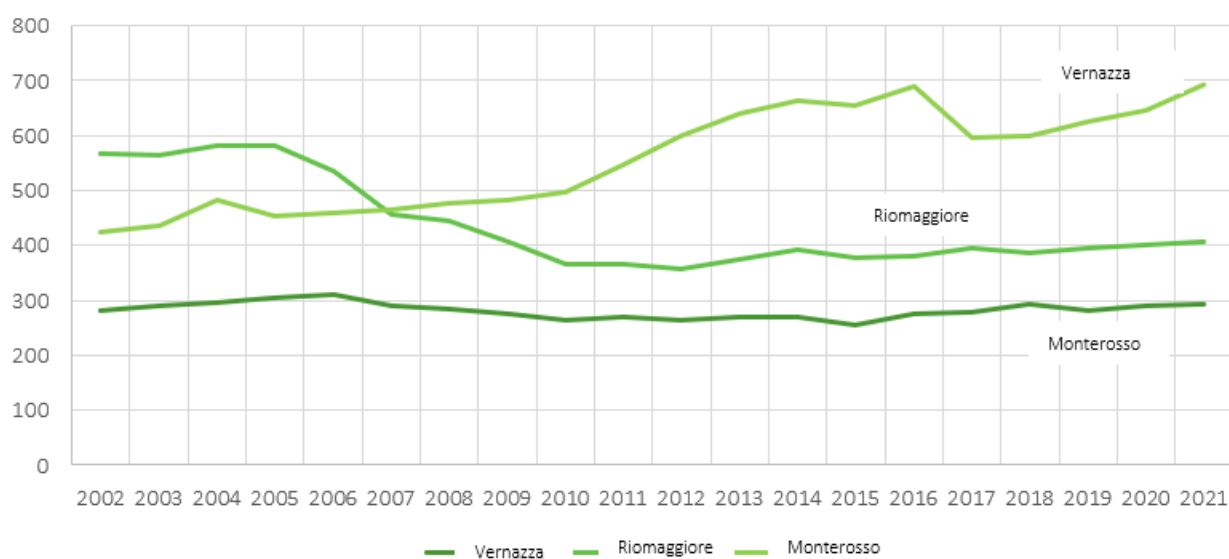
Tab. 25, Fig. 26: Analysis of population trends. Source: Reprocessed from ISTAT (2023).

It is also interesting to assess the aging index of the three municipalities. The aging index is an indicator that estimates the degree of ageing of the population. It is given by the composition ratio between the elderly population (65 years and over) and the

younger population (0-14 years): values above 100 indicate a greater presence of elderly individuals than of the very young. In the Province of La Spezia there are high aging indices, synonymous with a population over 65 that is far higher than the very young population over 65 far greater than the younger one. Again, the average for the three municipalities is much higher than the regional value (262.4%). In the case of Monterosso, the figure is not particularly different (293.96%), while it is almost double in Vernazza (690.9%) and 38% higher in Riomaggiore (405.43%).

If you look at how the age index has changed in the three municipalities in the last 10 years (Tab. 26, Fig. 27) you can see that the situation is stable in Monterosso, decreased in Riomaggiore and significantly raised in Vernazza.

Population age	MONTEROSSO				RIOMAGGIORE				VERNAZZA			
	2018	2019	2020	2021	2018	2019	2020	2021	2018	2019	2020	2021
0-14	154	160	153	149	144	142	136	129	53	50	49	44
15-64	817	799	802	796	798	781	742	740	454	437	411	418
Over 65	451	450	442	438	554	560	543	523	317	313	316	304
Aging Index %	292,86	281,25	288,89	293,96	384,72	394,37	399,26	405,43	598,11	626,00	644,90	690,90



Tab. 26 and Fig. 27: Analysis of population age and trends. Source: Reprocessed from ISTAT (2023).

CINQUE TERRE NATIONAL PARK: The management of the Cinque Terre area is entrusted to the National Park Authority of the Cinque Terre, established simultaneously with the National Park by the Decree of the President of the Republic on October 6, 1999, and published in the Official Gazette on December 17, 1999, No. 295, with the aim of protecting a territory considered of extraordinary landscape and naturalistic importance. Since 1997, it has been included in the UNESCO World Heritage list as a cultural heritage.

This Park stands out for its atypical and heavily anthropized scenery, highlighting how human intervention has shaped the landscape with the terraces seamlessly blending into the natural environment. Despite being one of Italy's smallest national parks, the Cinque Terre National Park boasts the highest population density. It is distributed among the municipalities of Riomaggiore, Vernazza, and Monterosso, encompassing the villages of Manarola (within Riomaggiore) and Corniglia (within Vernazza). The park's boundaries also extend to parts of Levanto (Mesco area) and La Spezia (Tramonti area) (Fig. 28), which lack resident populations and productive activities.



Fig. 28: Map of park trails and accessibility by train. Source: [https://www.parcnazionale5terre.it/pdf/Cartina\\_Sentieri.pdf](https://www.parcnazionale5terre.it/pdf/Cartina_Sentieri.pdf)

The institutional mandate and mission of the Cinque Terre National Park are defined by the framework Law 394/91 on protected areas, which identifies national parks as areas "of international or national significance for natural, scientific, aesthetic, cultural, educational, and recreational values, requiring state intervention for their conservation for present and future generations." The Park Authority was established to pursue five specific missions: preserve biodiversity, geomorphological formations, and the values of the cultural landscape; implement management methods aimed at integrating human activities with the natural environment; promote and carry out activities related to education, training, and scientific research; defend and restore hydraulic and hydrogeological balances; promote and encourage local productions.

The institutional bodies of the National Park Authority are five: the President; the Executive Council; the Executive Committee; the Board of Auditors; the Park Community. With the exception of the Park Community, the institutional bodies serve a term of five years, in accordance with the provisions of Article 9 of Law No. 394 of December 6, 1991, and subsequent amendments and integrations.

The landscape of the park is characterized by tiered vineyards, a traditional economic foundation facing challenges due to difficult topography and resistance to mechanization. Industrial development along the Ligurian coast led to a decline in traditional wine production, environmental degradation, and social instability. Railway introduction accelerated village depopulation, transforming residences into guesthouses. To address these issues, the Park Authority is committed to revitalizing winemaking traditions. Approximately 100 hectares, distributed among 24 agricultural enterprises, are dedicated to "Cinque Terre" Doc grape production. The Environmental Quality Mark initiative, launched in 2015, safeguards local identity by curating a selection of regional agricultural and wine products. This initiative serves as a resource for the tourism sector, particularly hospitality and catering, aiming to support agricultural efforts and rejuvenate the local economy.

The Environmental Quality Mark system highlights various products, including six labels of Cinque Terre DOC and one Cinque Terre Sciacchetra wine. Beyond wine, it promotes locally sourced products in a short supply chain (Km 0), such as olive oil (certified as "DOP Riviera Ligure Oil" by one producer), honey, aromatic herbs, vegetables, citrus fruits, and saffron.

In addition, the Cinque Terre holds the designation of a Marine Protected Area (MPA), recognized by the Ministry of the Environment's decree dated December 12, 1997. Covering an expanse of 4,591 hectares with a coastal length of about 19 km, the marine reserve forms a cohesive gulf extending from Punta Mesco to the west, Punta Pineda to the east, and just beyond Capo di Monte Nero.

The Cinque Terre National Park is a pristine natural haven characterized by a rugged landscape shaped by various rocks, marked by steep inclines and lacking flat expanses. The linear coastline, with minimal inlets and promontories, features captivating caves formed by the sea. The scant sandy and pebbly beaches result from watercourse debris, landslides, and human-made accumulations. Protected by a mountain range from northern winds, the region experiences warm sea currents rising along foothills, leading to condensation and fog on ridges, as well as frequent high-altitude precipitation. The Mediterranean climate brings dry summers and mild winters.

The orographic complexity creates diverse microclimates, fostering a variety of vegetation. Holm oak forests give way to cultivated terraces and tree species like maritime pine, Aleppo pine, cork oaks, and chestnuts. Coastal areas showcase sea fennel, sea carrot, and capers. Rocky environments feature sea cineraria, bicour ragwort, rue, and other species, while wider rock crevices host tree spurge and Mediterranean scrub plants. Rosemary, thyme, immortelle, and lavender shrubs are widespread, while heather, mastic, myrtle, turpentine, spiny broom, arbutus, Phillyrea, and red juniper create dense thickets. Various vines, including smilax, madder, flame nettle, asparagus, Etruscan and marine honeysuckle, contribute to the intricate vegetation.

The Park supports a diverse range of fauna, including the royal seagull, peregrine falcon, and imperial crow among bird species, and mammals such as dormice, weasels, moles, polecats, badgers, foxes, and wild boars. Wooded areas are home to wall lizards, green lizards, and snakes like the whip snake, Aesculapian snake, and viper. Near streams, colourful frogs and salamanders thrive, enhancing the biodiversity of this captivating natural reserve.

The Park employs effective self-financing mechanisms, prominently represented by trekking cards, which play a crucial role in sustaining and enhancing the territory. These funds contribute to the maintenance, restoration, and augmentation of tourist services, both internally and externally, in accordance with a specific agreement with Trenitalia S.p.A. Two main card variants are offered: the "Cinque Terre Trekking Card" and the "Cinque Terre Card Treno MS." The Cinque Terre Trekking Card provides:

1. Access to all areas and trails within the Park.
2. Guided visits according to the schedule.
3. Utilization of sanitary facilities.
4. Participation in workshops at the Environmental Education Center of the Park.
5. Reduced admission to the Civic Museums of La Spezia.
6. Usage of shuttle buses connecting the villages.



## 7. Internet access in the Park's Wi-Fi hotspots.

The Cinque Terre Card Treno MS extends these benefits to include:

1. Access to all services covered by the Trekking Card.
2. Second-class access to all regional trains (excluding IC/ICN/FB trains).

In 2016, the Park introduced a revamped card management program, progressively transitioning to a digital format. These cards are now exclusively available for purchase online and/or through designated welcome points. The following table presents sales data for the cards for the years 2018, 2019, 2020, and 2021 (Tab. 27).

Description of the type of cards sold	costs	2018	2019	2020	2021
Cinque Terre Trekking Card (hard copy)	1day adult 7,50€ 2days adult 14,50€	101.976	69.901	42.931	73.364
Cinque Terre Trekking Card (online)	1day youg 4,50€ 2day young 7,20€	5.497	10.439	3.792	7.539
Cinque Terre Trekking card Self-produced Pos Sentieri (from May 2021)	1 day over70 6,00€ 1day family 19,60€ 2 day family 31,50€	---	---	---	5.889
<b>Trekking Card TOTAL</b>		<b>182.149</b>	<b>149.512</b>	<b>58.361</b>	<b>107.183</b>
Cinque Terre multi services Train Card (hard copy)	From May to 5 <sup>th</sup> November 1 day adult 18,20€	469.370	30.267	6.649	14.176
Cinque Terre Train Card (sold by Trenitalia)	2 days adult 33,00€ 1 day young 11,40€	310.988	341.885	90.618	120.523
Cinque Terre Train Self-Produced (from august 2018)	1 day over70 14,80€ 1 day family 48,00€	137.500	525.847	105.747	233.319
Cinque Terre Train MS Self-produced Pos Trails (from May 2021)	From 6 <sup>th</sup> November to March 1 day adult 14,80€ 2 days adult 26,50€	---	---	---	953
Cinque Terre Web Train on MS MyPass App (from August 2021):	1 day youg 8,50€ 1 day over70 11,20€ 1 day family 36,20€	---	---	---	1.178
<b>Multi services Train Card TOTAL</b>		<b>949.159</b>	<b>985.561</b>	<b>226.754</b>	<b>443.564</b>
<b>TOTAL CARD SOLD</b>		<b>1.131.308</b>	<b>1.135.073</b>	<b>285.115</b>	<b>550.747</b>

Tab. 27: Multi-service cards sold. Source: Reprocessed from Cinque Terre National Park, (2022).

Thanks to increased sales of the multi-service cards in 2022, the Park recorded a record budget of EUR 29 million, which is significantly higher (about EUR 5 million more) than the pre-Covid levels of 2019.

**LAND USE:** The territory of the Cinque Terre National Park is characterised by 67.3% of its land use consisting of natural areas (coniferous, chestnut, mixed woodland, holm oak, as well as Mediterranean scrub). On the other hand, 27.2% is dedicated to agricultural areas, three of which are vineyards and olive groves. Built-up areas make up only 2.2% of the territory (Fig. 29). The complexity of the territory has created many microclimates, resulting in a massive diversification of the vegetation. The holm oak forests, once dominant in the area, have been partly replaced by cultivated areas and other tree species, such as maritime pine, Aleppo pine, cork and chestnut. The holm oak groves had a very important function in maintaining the slopes and the hydrogeological structure of the area. Now the system only functions through the sealing of dry-stone walls. The abandonment of cultivated land since the post-war period has compromised the sealing of the slopes. This is why the dry-stone walls and the agricultural vocation are not only fundamental for the park from a historical and landscape point of view, but also from a hydrogeological point of view.

## LAND USE

Cinque Terre national Park

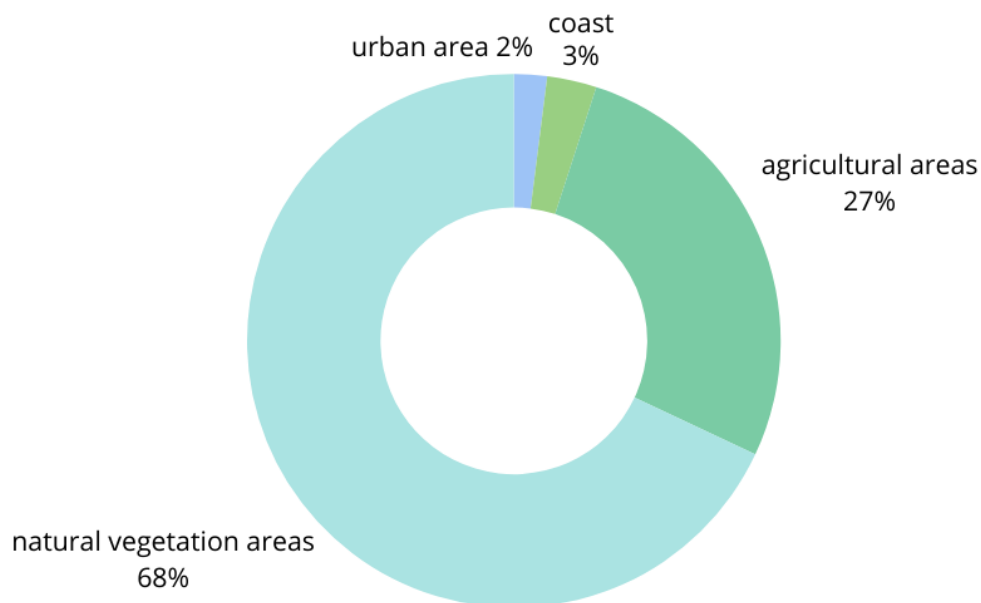


Fig. 29: Multi-service cards sold. Source: Cinque Terre National Park (2022).

The ISTAT data gleaned from the 2021 7th Agricultural Census underscore the presence of 826 agricultural enterprises. These include 206 agricultural enterprises in the Levanto municipality, 265 in La Spezia, 173 in Riomaggiore, 94 in Vernazza, 62 in Monterosso, and 26 in Porto Venere. Notably, the proprietors of these enterprises tend



to be of advanced age; the majority (36%) are aged 75 or older, while only 3.8% are under 35.

In terms of the average size of these enterprises within the surveyed area, it's worth noting that they are generally diminutive. A significant 74.5% of these enterprises possess Utilized Agricultural Area (UAA) of less than 1 hectare. Additionally, 18.5% occupy an area between 1 and 2 hectares, 6.5% span between 2 and 10 hectares, and a mere 0.5% surpass 10 hectares. Olive tree cultivation for olive or oil production commands 55% of the UAA, while grape cultivation accounts for 28.5% (Fig. 30). 11 farms are certified organic, while a total of 398 yield products with the PDO or PGI label.

An examination of the sector's evolution over the last century reveals an overall pessimistic scenario. Focusing on key crops (aggregate data for Levanto, Monterosso, Porto Venere, Riomaggiore, and Vernazza municipalities), the olive cultivation area dwindled from 1074 hectares in 1929 to 266 hectares in 2010. The situation is direr for grape cultivation, which plummeted from 1201 hectares in 1929 to a mere 181 hectares in 2010. The livestock sector, once a significant contributor though never central, has now become entirely marginal. The dwindling number of sheep and goats, decreasing from 3418 in 1929 to 169 in 2010, indicates its historical significance despite its current negligible status.



Fig. 30: Photo of a terraced vineyard above the village of Vernazza. Source: author.

**TOURISM and ECONOMY:** In 2022, Liguria's tourist season concluded with nearly 5 million visitors and 15.5 million overnight stays, showcasing a substantial increase of 1.42 million arrivals and 3.73 million stays compared to 2021. This represented a notable percentage change from the previous year, with arrivals up by +40.5% and stays increasing by +31.6%. Remarkably, despite the lingering impact of the pandemic, Liguria exceeded its pre-pandemic 2019 figures, registering a +2.3% increase in arrivals and +2.9% in tourist stays (CGIL Liguria, 2022). Although the growth rate was less pronounced than in 2021, it still indicated positive development.

The most significant growth in arrivals and stays among Italian tourists was witnessed in Imperia, with increases of 27.3% and 20%, respectively. La Spezia, on the other hand, stood out for foreign arrivals and stays, experiencing remarkable surges of +97.4% and +86% compared to the previous year (Fig. 31).

It is important to emphasize that the Ligurian tourism system predominantly centres around coastal areas, with over 86% of arrivals and stays concentrated in the municipalities of the Riviera di Ponente and Riviera di Levante. This concentration leads to significant tourist influx, particularly during the summer season. The high seasonality and the almost total concentration of tourist flows along the coastal municipalities constitute the two main problems related to tourism

### TOURISM TRENDS BY ORIGIN

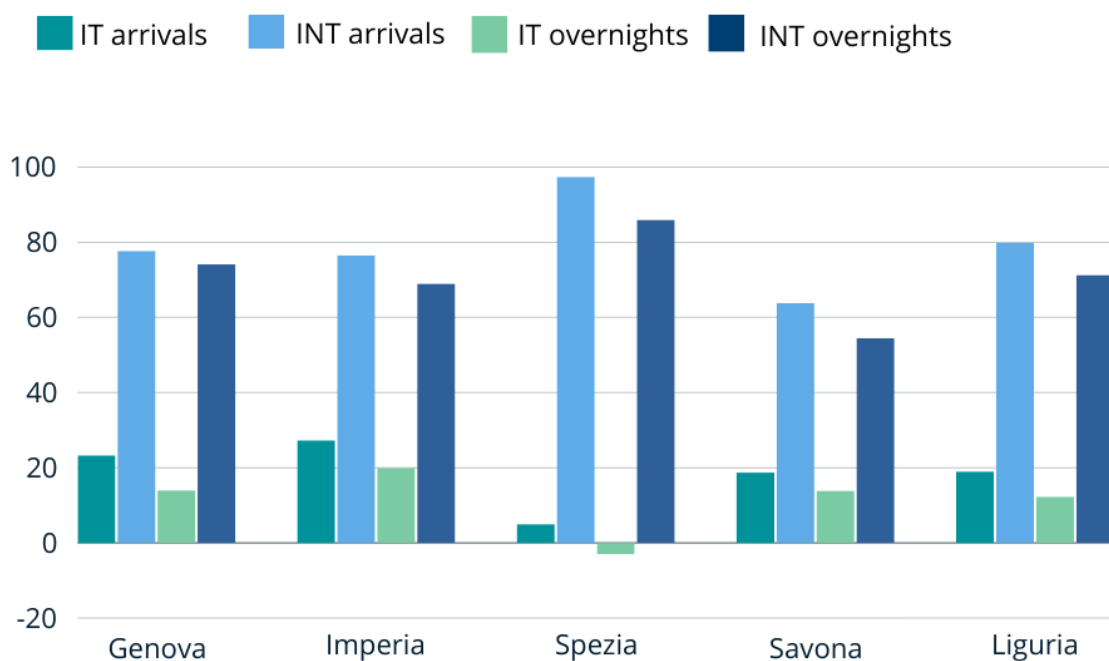


Fig. 31: Tourism trends by origin in Liguria. Source: Reprocessed from CGIL Liguria (2022).

However, La Spezia faced the only negative trend in 2022, with a 5.7% decrease in the stays of Italian tourists. The average length of stay decreased across all provinces compared to 2021 but remained higher than in 2019, except for Savona. Savona is the sole province in Liguria where the average stay exceeds 4 days per arriving tourist.

The regional average length of stay hovers just above three days. Despite the overall positive growth in arrivals and stays, there are divergent patterns between the western (Ponente) and eastern (Levante) parts of Liguria. Imperia is the only province still lagging behind the pre-pandemic 2019 levels, while Savona remains relatively stable. In contrast, Genoa and La Spezia significantly surpassed the 2019 figures, with the increases in stays being much higher—more than double in the case of La Spezia—than those in tourist arrivals (Fig. 32).

### AVERAGE STAY OF TOURISTS IN THE PROVINCES OF LIGURIA

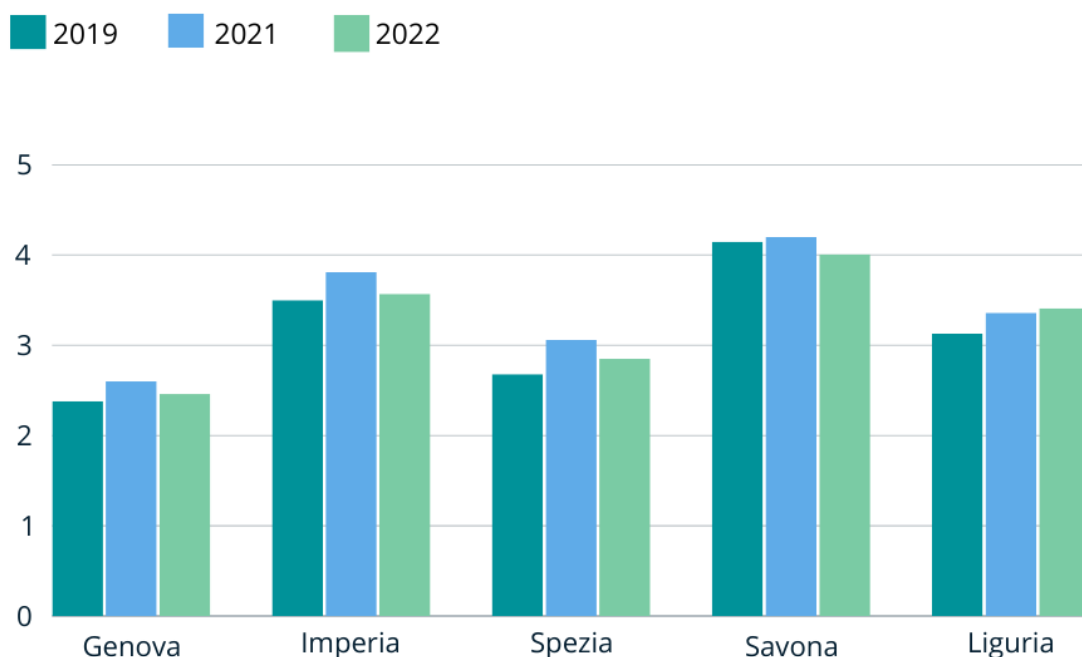


Fig. 32: Average stay of tourists in Liguria. Source: Reprocessed from CGIL Liguria (2022).

Regarding tourism data in 2021, the Province of La Spezia surpasses the regional average, exhibiting significant variations among its key municipalities. Monterosso and Riomaggiore notably excel, with the latter leading at the regional level. Moreover, both the Provincial capital and Levanto exceed the Liguria average. On the flip side, Lerici and, notably, Sarzana lag behind in terms of arrivals and occupancy, the latter being less influenced by the allure of Cinque Terre.



Regarding the distribution of accommodation in Liguria, hotels are mainly concentrated on the coast and 42% are in the province of Savona. Only 13% are in the province of La Spezia (Fig. 33).

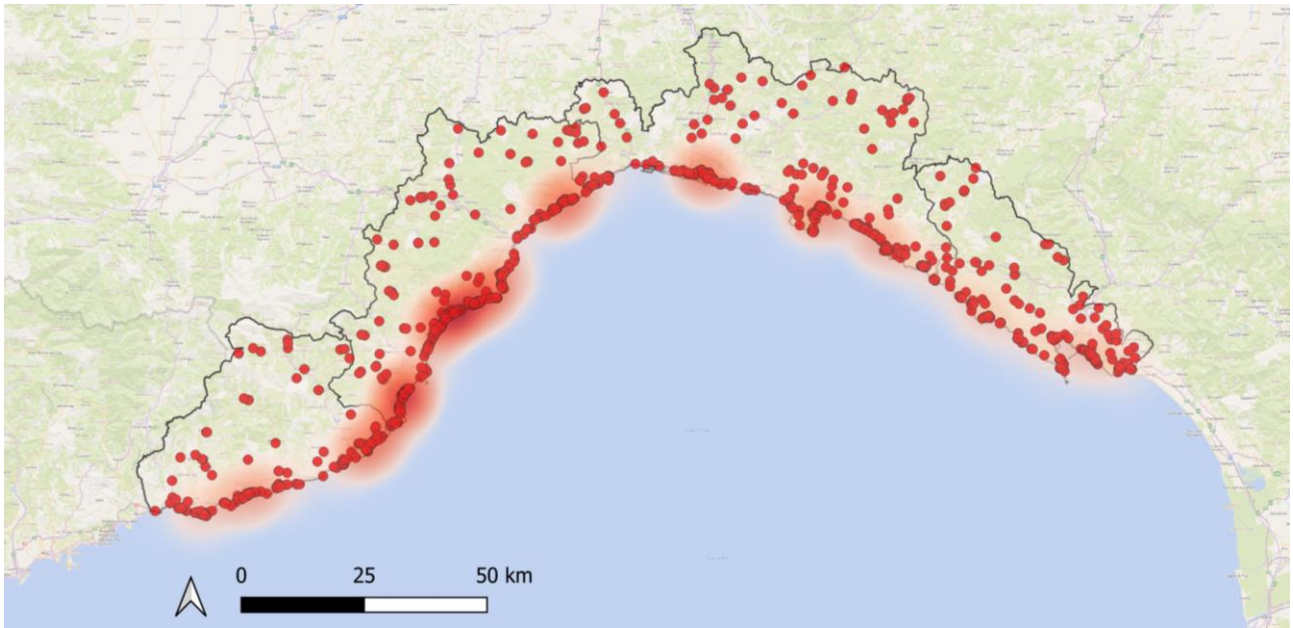


Fig. 33: GIS processing of hotel facilities in Liguria. Source: Reprocessed from CGIL Liguria (2022).

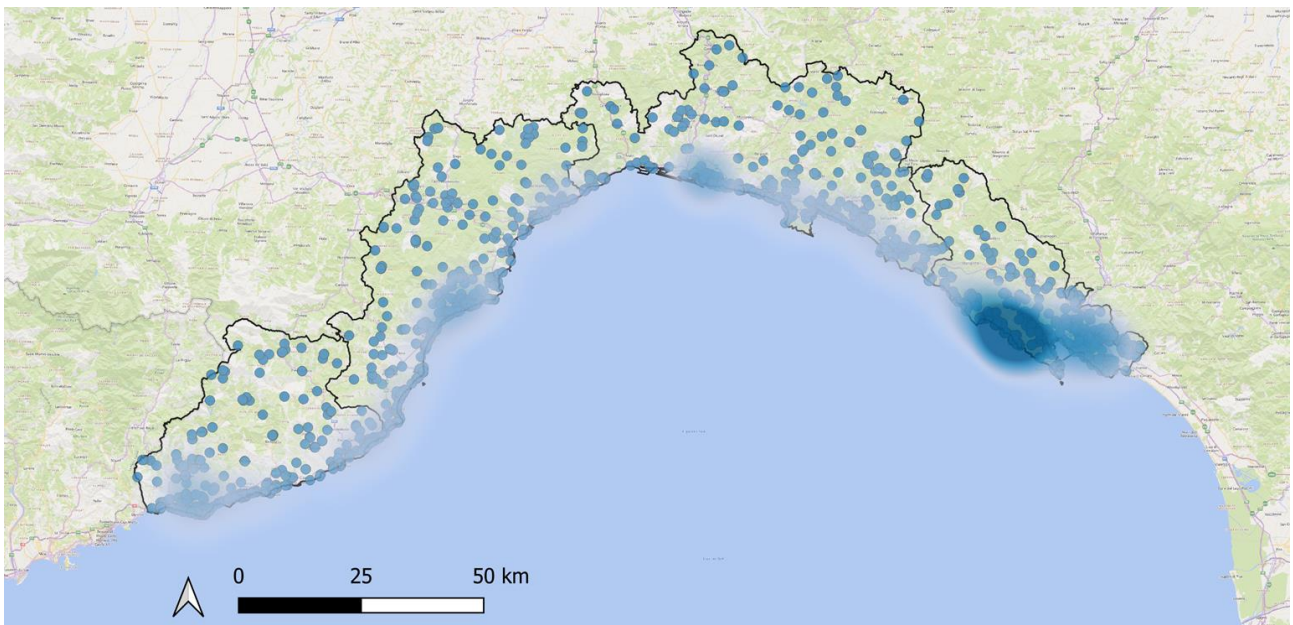


Fig. 34: GIS processing of extra-hotel facilities in Liguria. Reprocessed from CGIL Liguria (2022).

Non-hotel facilities are much more spread out between the coast and the hinterland, although the former predominate. These facilities are mainly concentrated in the province of La Spezia in the coastal strip from Levanto to the Gulf of La Spezia. The concentration is double that of the other provinces in Liguria (Fig. 34).

Tourism plays a pivotal role as the primary revenue generator for the Cinque Terre National Park area. Activities related to room rentals and holiday homes followed by catering are the most widespread. Respectively, they cover 42.44% and 18.07% of all tourism-related enterprises in the park area (Fig. 35) (Unitary territorial entity La Spezia, 2022).

## TOURISM ENTERPRISES BY SECTOR

Povince of La Spezia, area "Cinque Terre-Riviera", 2022

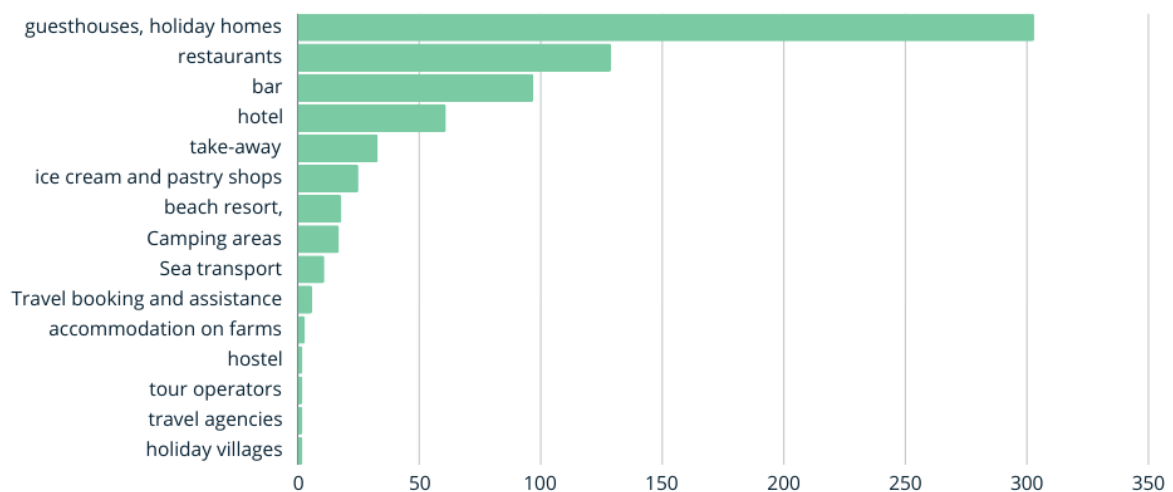


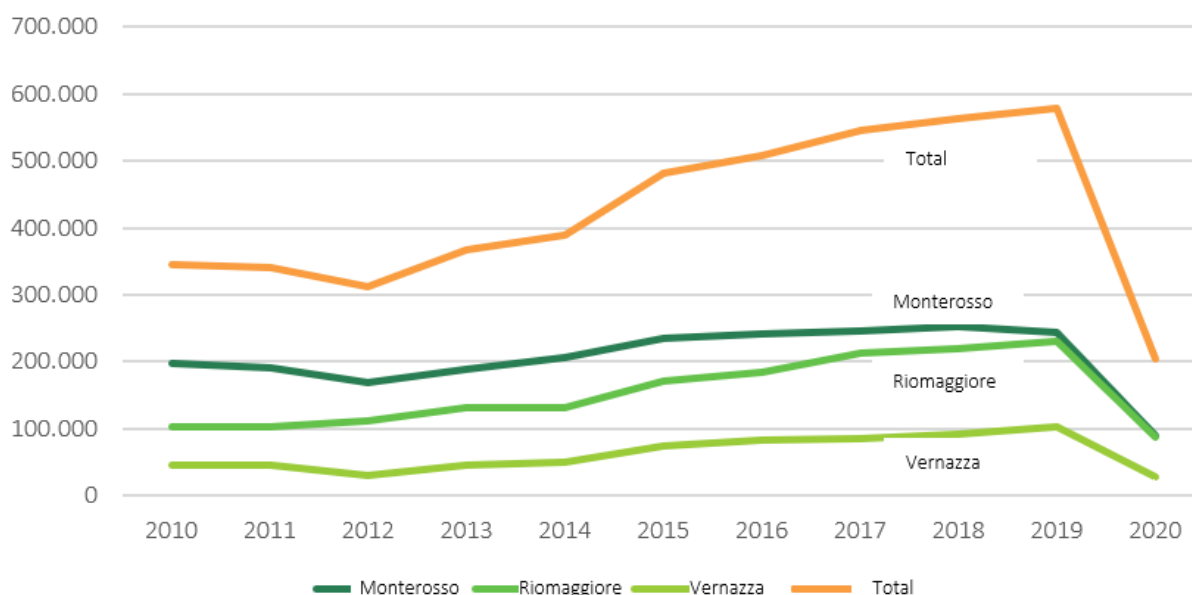
Fig. 35: Tourism Enterprises by sector, area Cinque Terre.  
Source: Reprocessed from Unitary territorial entity, La Spezia

The number of overnight stays has increased by a total of 67.62% in the last ten years within the park (Cinque Terre National Park, 2022). If we analyse the details for each municipality, we see an increase of 24.82% in Monterosso, 123.8% in Riomaggiore, and 126.3% in Vernazza (Tab. 28 and Fig. 36). When comparing these data with the demographic trend (reported on page 180), it is noticeable that Vernazza is the municipality that has lost the most inhabitants, but it is also the one that has seen the number of tourists increase the most.

In 2020, tourism was almost non-existent (returning to pre-2010 levels), but according to a recent study commissioned by the Cinque Terre National Park in 2023 from the international company MIC HUB, 4 million tourists arrived. This value exceeds pre-pandemic numbers by one million. It is even more impressive considering that tourists concentrated within an area of just over 1 square kilometre (inside the small villages of

Cinque Terre), corresponding to only 3% of the entire park area. The study also certifies that the massive tourist presence can be defined as overtourism as it exceeds the accommodation capacity of the 5 villages. These data were presented during the Park's Board Meeting on November 10, 2023.

Tourist overnights	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Monterosso	196.682	190.595	170.041	189.413	206.103	234.470	240.784	246.649	251.780	245.005	90.390	161.878
Riomaggiore	103446	102.788	111.442	132.482	131.911	172.072	184.047	212.586	220.354	231.481	86.862	139.511
Vernazza	45.344	46.442	31.202	46.102	50.989	74.239	83.182	85.458	91.394	102.606	28.000	-----
Total	345472	339825	312685	367997	389003	480781	508013	544693	563528	579092	205252	-----



Tab. 28 and Fig. 36: Tourist overnights. Source: Reprocessed from Cinque Terre National Park, 2022.

The tourist flows, in addition to being concentrated in a very small area, are influenced by a strong seasonality, mainly occurring between April and October, with peaks in July and August (Fig. 37). The values for August are 909% higher compared to the overnight stays recorded in January, despite the mild weather of the winter and autumn months. According to MIC HUB, in the Cinque Terre in 2023, the months with the highest influx were in the summer, with 344 thousand arrivals in June, 345 thousand in August, and 338 thousand in September.

## TOURIST OVERNIGHTS PER MONTH

Povince of La Spezia, 2022

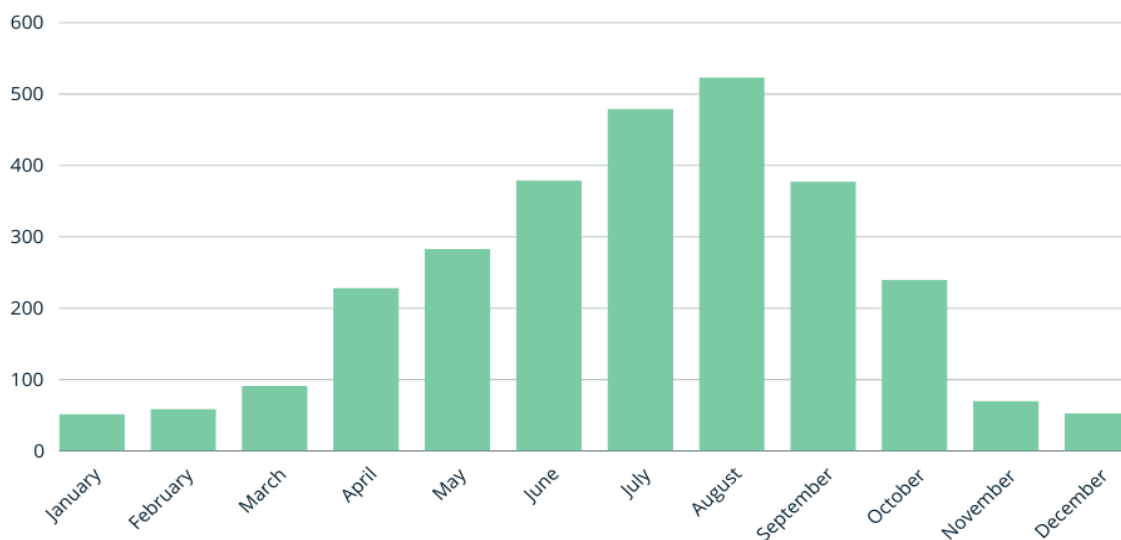


Fig. 37: Tourist overnights per month. Source: Reprocessed from Unitary territorial entity, La Spezia.

There is no specific data available regarding the average daily number of tourists in the various months of the year in the three municipalities of the Cinque Terre. To arrive at an estimate, the number of train tickets sold in 2022 (Tab. 29) and the total number of tourists declared by the park, 3 million, were considered.

Months (year2022)	n° 5 Terre Train Tickets sold
January	286.38
February	366.75
March	107.541
April	349.590
May	407.976
June	380.997
July	397.476
August	419.118
September	388.212
October	233.937
November	58.104
December	39.219
Total	949.161

Tab. 29: Number of train tickets sold in 2022. Source: Trenitalia.

Distributing the three million over the months of the year, following the same trend as the train ticket sales, it is possible to estimate the average daily number of tourists in different months of 2022, as reported in Fig. 38. According to these estimates, the average daily number of tourists is around 8200 visitors, but with significant differences between the high and low seasons. The peak is reached in August with 13350 tourists, while the lowest value is in January with an average of about 920 people per day.

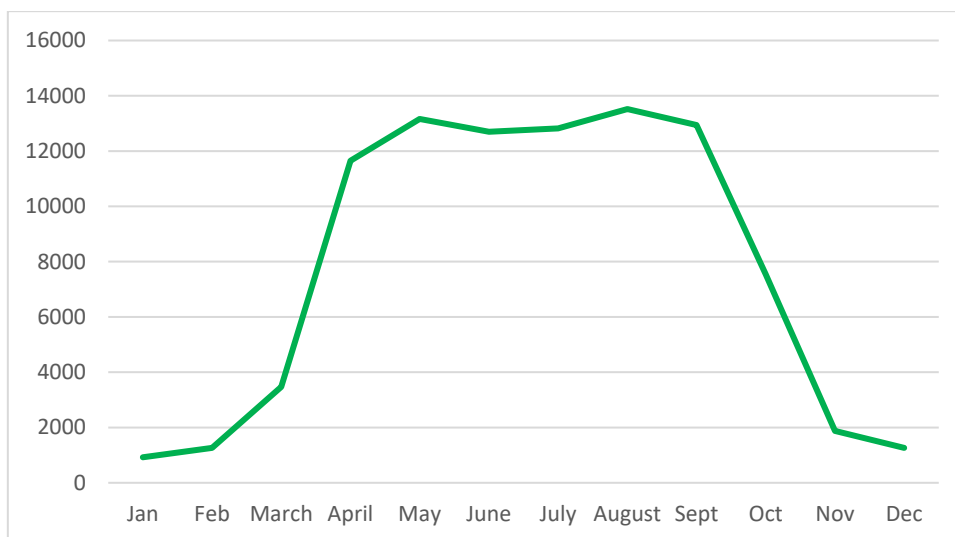


Fig. 38: Average daily number of tourists in 2022. Source: Author.

It is also interesting to see how tourist receptivity has changed to cope with this increase in tourists within Levanto, Monterosso, Riomaggiore and Vernazza. Comparing the last two reports, from 2016 and 2020, by ISPRA on receptivity within Italian national parks, it is noted that in 4 years hotel structures have increased by two units, and non-hotel structures by 175 units, (+35.6%) (Tab. 30). In the 3 municipalities of the park the number of beds dropped to 3700 (2430 extra hotel and 1270 hotel).

ACCOMODATION	Hotel sector		Extra-hotel accomodations		TOTAL
	business	beds	business	beds	
2016	59	1933	492	3885	5818
2020	61	1957	667	4491	6448

Tab. 30: Accommodation facilities. Source: Reprocessed from ISPRA 2016 and 2020.

The 2020 ISPRA report also includes an analysis on tourist intensity in Italian National Parks (Tab. 31). The Cinque Terre National Park appears to have the highest ratio both for arrivals/residents and nights/residents, respectively at 33.7% and 90.1%. The average of the 25 Italian national parks is significantly lower, with 2 for arrivals/residents and 8.6 nights/residents.



ITALIAN NATIONAL PARKS	municipalities	arrivals	overnights	residents	Arrivals/residents	overnights/residents
Abruzzo, Lazio e Molise	24	75.846	215.017	25.659	3,0	8,4
Alta Murgia	12	72.337	145.983	323.227	0,2	0,5
Appennino Lucano	29	53.209	136.539	85.425	0,6	1,6
Appennino Tosco-Emiliano	13	38.422	132.991	42.583	0,9	3,1
Arcipelago La Maddalena	1	39.972	169.563	11.248	3,6	15,1
Arcipelago Toscano	10	446.426	2.791.376	33.914	13,2	82,3
Asinara	1	10.882	23.469	22.279	0,5	1,1
Aspromonte	37	106.377	282.178	271.074	0,4	1,0
Cilento, Vallo di Diano	80	433.434	2.853.105	218.189	2,0	13,1
<b>Cinque Terre</b>	<b>4</b>	<b>313.934</b>	<b>838.521</b>	<b>9.311</b>	<b>33,7</b>	<b>90,1</b>
Circeo	3	113.187	271.261	33.986	3,3	8,0
Dolomiti Bellunesi	14	100.083	420.494	74.381	1,3	5,7
Foreste Casentinesi,	11	157.564	444.292	41.912	3,8	10,6
Gargano	18	842.425	4.252.911	204.078	4,1	20,8
Gennargentu	24	98.822	425.604	56.048	1,8	7,6
Gran Paradiso	13	154.401	402.718	8.070	19,1	49,9
Gran Sasso	43	44.833	110.247	66.553	0,7	1,7
Isola di Pantelleria	1	10.621	60.184	7.665	1,4	7,9
Majella	39	146.878	422.757	87.598	1,7	4,8
Monti Sibillini	15	84.366	262.159	20.603	4,1	12,7
Pollino	56	123.380	578.221	147.533	0,8	3,9
Sila	21	99.150	472.902	133.833	0,7	3,5
Stelvio - Stilfserjoch	23	1071140	4.356.181	64.821	16,5	67,2
Val Grande	13	9.510	40.156	12.378	0,8	3,2
Vesuvio	13	60.711	144.732	351.018	0,2	0,4
<b>TOTAL NATIONAL PARKS</b>	<b>518</b>	<b>4707910</b>	<b>20253560</b>	<b>2.353.386</b>	<b>2,0</b>	<b>8,6</b>

Tab. 31: Tourist intensity in the Italian National Parks. Source: Reprocessed from ISPRA 2020.

The increase in tourists is also closely linked to the increase in waste production in the three municipalities, as can be seen in the graphs below (Fig. 39).

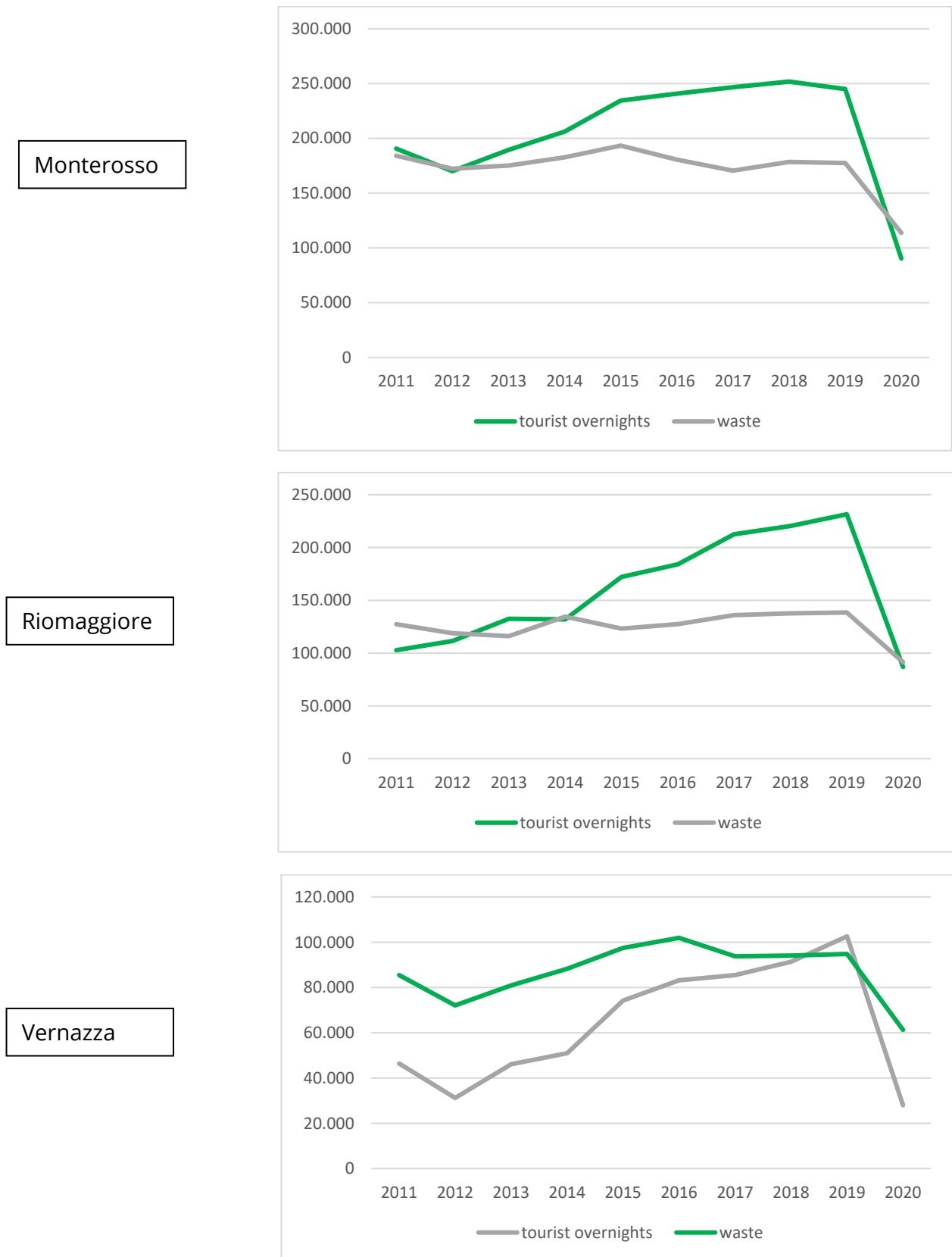


Fig. 39: Relationship between tourist overnight and waste generation. Source: Reprocessed from ISTAT.

- Data analysis

1. SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis

The data collected in the previous analysis phase and thank to the dialogue of the local community were reworked using a SWOT-type analysis to highlight the strengths, weaknesses, opportunities and threats of the tourist destination.

<b>STRENGTHS</b>	<p>National Park and Marine protected area</p> <p>UNESCO site</p> <p>Strong landscape and cultural-historical value linked to the value and commitment of man who has made the area completely terraced with dry stone walls and opportunities for integration of land-sea values.</p> <p>Presence of spatial planning and risk management tools such as the security plan, the UNESCO site management plan and the Cinque Terre National Park plan.</p> <p>Dissemination through a widespread network of the Park's Multiservice Cards (Cinque Terre Train MS and Cinque Terre Trekking Card).</p> <p>Good connection using public transport.</p> <p>Presence of the 'Environmental Quality Label' circuit.</p> <p>Agricultural know-how.</p> <p>Presence of new crops (e.g., saffron), and recovery of characteristic crops such as lemon groves and vineyards.</p> <p>Local product recognition.</p> <p>Existence of geo sites, caves, archaeological discoveries, and other sites of significance and interest.</p> <p>Excellent signposting and georeferencing of main paths.</p> <p>Incorporation of tourist engagement experiences in support of the agricultural sector.</p> <p>Weather alert system activated inside the UNESCO site.</p>
------------------	--

## WEAKNESSES

Lack of Vision: Directional uncertainties, absence of coherence within the destination community.

Lack of planning and management tool specific for tourism management.

Lack of the Park Plan.

Difficulties in managing tourist flows.

Overtourism: The Cinque Terre exceeds its tourism capacity, threatening the balance between environment, inhabitants and economy

Lack of attention to the distribution of local products.

Too high demand for tourist flows reduces the quality of products

Depopulation of villages by original residents with loss of knowledge and identity

High production costs and the high average age of local producers may lead to the abandonment of the land and the loss of terraced areas.

Significant presence of ungulates.

Geomorphological features: steeply sloping, landslide, low consistency soils.

Presence of many architectural barriers.

Limited accessibility persists even during initial aid operations, exacerbated by the influx of tourists.

Strong economic dependence on the tourism sector.

Insufficient use and communication of the values associated with UNESCO recognition.

The seasonality of flows and concentration in the summer months, increase in day visitors

The standardisation of the commercial offer.

## OPPORTUNITIES

Business growth and increased employment opportunities.

Outdoor activities.

Revitalized enthusiasm for agricultural practices, above all between young people

Growing interest in ecotourism and sustainability in travel

Cutting-edge technologies designed for the cultivation

A surging market interest in locally sourced productions

Good weather almost all the year that helps off-Peak promotion such as marketing strategies to encourage off-peak visits, spreading tourism throughout the year.

Agriculture can help create a strong territorial system where public, private collaborate to safeguard the land.

Availability of skilled people within the UNESCO network

Conservation: preservation of natural and cultural heritage through tourism contributions (Cinque Terre Trekking Card).

## THREATS

Environmental Impact: habitat disruption or loss, heightened resource utilization, waste generation.

Excessive price growth in the property market mainly due to short time rentals

Disruption of daily life, customs, and traditions.

Security problems related to overcrowded locations (particularly railway stations).

The villages in high season are overcrowded during the day and the inhabitants feel like hostages in their homes and tourists do not meet their expectations.

Difficult economic situation of farms that are unable to sustain themselves and have to resort to a mix of economic activities and are often forced to abandon the land.

High hydrogeological risk linked to climate change and abandonment of cultivation/terracing.

## 2. PEST (Political, Economic, Social and Technological) analysis

POLITICAL	<p>At municipal level there is widespread awareness that tools and plans are needed to manage and direct tourist flows.</p> <p>Even the National Park agrees that a balance is needed by avoiding bans and closures but by better organising, distributing and managing visitor flows. Both the mayors and the park are calling for action at the national level to regulate and manage tourism.</p>
ECONOMICAL	<p>National park resources are always increasing. The 2022 budget even surpassed the pre-covid one of 2019, grossing 29 million euros (5 million more than four years ago). Revenue from the tourist tax by the three Municipalities has increased significantly and Trenitalia collects over €20 million a year from the sale of tickets for the Cinque Terre.</p>
SOCIAL	<p>The host community is more than aware of the need to manage tourist flows. Many inhabitants even hope for a limited number. The level of conflict with tourists is increasingly high, mainly due to crowding, increased costs and the lack of services for residents.</p>
TECNOLOGICAL	<p>Since 2017 there has been the official app of the Cinque Terre National Park where it is possible:</p> <ul style="list-style-type: none"><li>- consult all the information and maps of the trail network and mountain bike routes;</li><li>- find thematic itineraries for families and runners;</li><li>- send reports;</li><li>- purchase the Cinque Terre card;</li><li>- consult the train and boat timetable;</li><li>- see weather alert service.</li></ul>

### 3. Tourism sustainability assessment (TCC + Social Satisfaction Analysis)

**Tourism Carrying Capacity.** The methodology proposed in Chapter 3 is used to calculate the tourism carrying capacity of the Cinque Terre Park.

The formula uses a fuzzy linear programming system that takes into account various physical and environmental constraints and maximizes the number of tourists (divided by tourists who stay in hotels, in non-hotel facilities and day tourists) based on their economic expenditure in the area. Using fuzzy logic, the final value is not a specific number but a range with an upper and lower limit. Below are the values entered into the formula with reference to the characteristics of the Cinque Terre National Park (Tab. x). The corrective constraints ( $b_{x,y}$ ) depends on how much the different categories of tourists (TH, TNH and E) use the different services/places (accommodation facilities, restaurants, parking, public transport, ...) present within the three municipalities in the park (Tab. 32). The maximum and minimum values of the corrective constrain are given in Table 15 in Chapter 3.

The system is solved using MATLAB software.

$$\left[ \begin{array}{l} \max \tilde{c}_1 TH + \tilde{c}_2 TNH + \tilde{c}_3 E \\ TH \leq \tilde{d}_1 \\ TNH \leq \tilde{d}_2 \\ \tilde{b}_{3,1} TH + \tilde{b}_{3,2} TNH + \tilde{b}_{3,3} E \leq \tilde{d}_3 \\ \tilde{b}_{4,1} TH + \tilde{b}_{4,2} TNH + \tilde{b}_{4,3} E \leq \tilde{d}_4 \\ \tilde{b}_{5,1} TH + \tilde{b}_{5,2} TNH + \tilde{b}_{5,3} E \leq \tilde{d}_5 \\ \tilde{b}_{6,1} TH + \tilde{b}_{6,2} TNH + \tilde{b}_{6,3} E \leq \tilde{d}_6 \\ \tilde{b}_{7,1} TH + \tilde{b}_{7,2} TNH + \tilde{b}_{7,3} E \leq \tilde{d}_7 \\ \tilde{b}_{8,1} TH + \tilde{b}_{8,2} TNH + \tilde{b}_{8,3} E \leq \tilde{d}_8 \\ \tilde{b}_{9,1} TH + \tilde{b}_{9,2} TNH + \tilde{b}_{9,3} E \leq \tilde{d}_9 \\ \tilde{b}_{10,1} TH + \tilde{b}_{10,2} TNH + \tilde{b}_{10,3} E \leq \tilde{d}_{10} \\ TH, TNH, E \geq 0 \end{array} \right.$$

TH= Tourists in hotels

TNH= Tourist in Non-Hotel facilities (such B&B, apartments, camping...)

E= Excursionist/ day tourist

Maximum limit of services/places in the park area		low limit	upper limit	References
c <sub>1</sub>	Hotel tourist daily expenditure	120	130	Survey done by the author
c <sub>2</sub>	Extra hotel tourist daily expenditure	110	120	
c <sub>3</sub>	Excursionist daily expenditure	40	60	
d <sub>1</sub>	Bed hotel	1200	1270	ISPRA ( <a href="http://urly.it/3z52_">urly.it/3z52_</a> )
d <sub>2</sub>	Bed extra hotel	2400	2430	ISPRA ( <a href="http://urly.it/3z52_">urly.it/3z52_</a> )
d <sub>3</sub>	Lunches	5200	5250	Site inspection
d <sub>4</sub>	Parking	1400	1450	Site inspection
d <sub>5</sub>	Critical site/hot spot (Vernazza railway station)	4790	4800	Site inspection
d <sub>9</sub>	Waste (kg/res/day)	9,4	9,5	Liguria Region ( <a href="http://urly.it/3z531">urly.it/3z531</a> )
d <sub>10</sub>	Public T.	78000	80000	Seats available on trains ( <a href="http://urly.it/3z5pz">urly.it/3z5pz</a> )
d <sub>6</sub> ; d <sub>7</sub> ; d <sub>8</sub>	Water (mc) and Capacity of the power grid (Kwh) are not significant for the case study but are important for rural and developing countries.			

Tab. 32: Maximum limit of services/places in the park area. Source: author.

```

x = optimvar('x', 'UpperBound', 1200, 'LowerBound', 0);
y = optimvar('y', 'UpperBound', 2400, 'LowerBound', 0);
z = optimvar('z', 'LowerBound', 0);
prob = optimproblem('Objective', 120*x + 110*y + 40*z, 'ObjectiveSense', 'max');
prob.Constraints.c1 = 0.68*x + 0.57*y + 0.18*z <= 5200;
prob.Constraints.c2 = 0.30*x + 0.30*y + 0.68*z <= 1400;
prob.Constraints.c3 = 0.90*x + 0.90*y + 0.90*z <= 78000;
prob.Constraints.c4 = 1.60*x + 1.40*y + 0.60*z <= 9400;
prob.Constraints.c5 = 0.30*x + 0.20*y + 0.60*z <= 4790;
problem = prob2struct(prob);
[sol, fval, exitflag, output] = linprog(problem);

```

X= 1200; Y= 2400; Z= 471

Higher TCC= 4071



```

x = optimvar('x', 'UpperBound', 1270, 'LowerBound', 0);
y = optimvar('y', 'UpperBound', 2430, 'LowerBound', 0);
z = optimvar('z', 'LowerBound', 0);
prob = optimproblem('Objective', 130*x + 120*y + 60*z, 'ObjectiveSense', 'max');
prob.Constraints.c1 = 0.83*x + 0.72*y + 0.22*z <= 5250;
prob.Constraints.c2 = 0.36*x + 0.36*y + 0.83*z <= 1450;
prob.Constraints.c3 = 1.10*x + 1.10*y + 1.10*z <= 80000;
prob.Constraints.c4 = 2.00*x + 1.80*y + 1.00*z <= 9500;
prob.Constraints.c5 = 0.50*x + 0.40*y + 0.81*z <= 4800;
problem = prob2struct(prob);
[sol, fval, exitflag, output] = linprog(problem);

```

X= 1270; Y= 2430; Z= 142

Lower TCC= 3842

The calculation shows that the TCC (Tourist Carrying Capacity) is a value between 3842 and 4071. At the minimum limit, the optimal distribution of tourists includes 1270 people in hotels, 2430 in non-hotel accommodations, and 142 excursionists. At the maximum limit, with a TCC of 4071, the area can accommodate 1200 hotel tourists, 2400 non-hotel tourists, and 471 excursionists. The number of excursionists is very low in both cases, but it's important to consider that the bed capacity in the three municipalities of the Cinque Terre is high (3700) and exceeds the population in the municipalities of Monterosso, Riomaggiore, and Vernazza (3483).

Comparing the TCC value obtained, it is evident that it is much lower than the average daily number of tourists, which is 8200 people (2022 data). However, when considering the daily average in high and low seasons, the situation changes. From November to March, the tourist carrying capacity is even higher than the average daily number of tourists, which is 1150 (with a maximum of around 3470 in March and a minimum of about 40 tourists per day in December).

In the high season, the situation is dramatic and corresponds well to the impressions received from both residents and tourists through surveys. In the high season, the daily average number of tourists is approximately 12050, which is three times the park's carrying capacity. In August, when the seasonal peak is reached, the maximum number of daily tourists, about 13520, is 238% more than the TCC.

It is also noteworthy that the critical period, where the number of tourists deviates the most from the TCC, lasts for 7 months. The most balanced month is March, with approximately 3500 tourists per day, a value very similar to the tourist carrying capacity.

**Social Satisfaction Analysis:** The methodology proposed by the research thesis in Chapter 3 suggests combining the calculation of tourist carrying capacity with the analysis of social satisfaction. This choice was made because TCC (tourist carrying capacity) is capable of representing economic and environmental sustainability but does not include considerations regarding social impacts. The level of social satisfaction was calculated through the distribution of two different questionnaires, one for residents and one for tourists. The responses to the questions and the final score obtained are reported in Table X. On a scale from 1 to 4, the obtained score is 1.79 (Tab. 33). It is interesting to note that the results obtained by residents and tourists are almost identical, demonstrating a general awareness in judging the tourist development within the Cinque Terre National Park as unsatisfactory.

Social Satisfaction Analysis	Answers	Score
<b>RESIDENT</b>		
A. Has tourism improved the following services?		1,87 (1 not at all; 2 a little; 3 quite a lot; 4 very much)
Waste management	1,77	
Public transport	2,49	
Health care	1,69	
Parking	1,59	
Public Offices	1,60	
Banks and ATMs	2,09	
B. How has tourism improved the following sectors?		1,92 (1 not at all; 2 a little; 3 quite a lot; 4 very much)
Well-being and quality of life	2,67	
Costs	1,59	
Historical heritage	2,23	
Employment	3,16	
Safeguarding the environment	0,84	
Cultural offer	2,04	
Local identity	1,89	
crowding	1,5	
security	1,69	
<b>TOURIST</b>		
C. Do you consider the destination crowded? (1 very much; 2 quite a lot; 3 a little; 4 not at all)		1,57
TOTAL SCORE = Resident +Tourist satisfaction		1,79

Tab. 33: Social Satisfaction Analysis. Source: Author.

**Tourism Sustainability Assessment:** Putting together the results obtained through the calculation of tourist carrying capacity and the analysis of social satisfaction makes it possible to quantify the level of tourism sustainability within the Cinque Terre Park. To combine the two results, as reported in Chapter 3, we chose to use a MATLAB application called Fuzzy Logic Designer. This application, using fuzzy logic, can integrate quantitative values, such as the TCC, with other qualitative ones, such as the SSA (Fig. 40).

With a Social Satisfaction of 1.79 (Fig. 41) and a daily average of tourists amounting to 8200 people (Fig. 42), significantly exceeding the TCC, the level of tourism sustainability is approximately 0.6. The scale used to assess tourism sustainability ranges from 0 to 4. It is evident that the obtained result is not satisfactory at all. For this reason, actions are needed to drastically reduce the number of tourists during peak seasons through proper distribution in winter months (Fig. 43).

System: Tourism Sustainability Assessment

Add All Possible Rules    Clear All Rules

	Rule	Weight
1	If social satisfaction is high and daily number of tourists is TCCeq then tourist sustainability is high	
2	If social satisfaction is low and daily number of tourists is TCChigher then tourist sustainability is low	
3	If social satisfaction is medium and daily number of tourists is TCClower then tourist sustainability is medium	

Fig. 40: Rules used to set fuzzy logic. Source: Author.

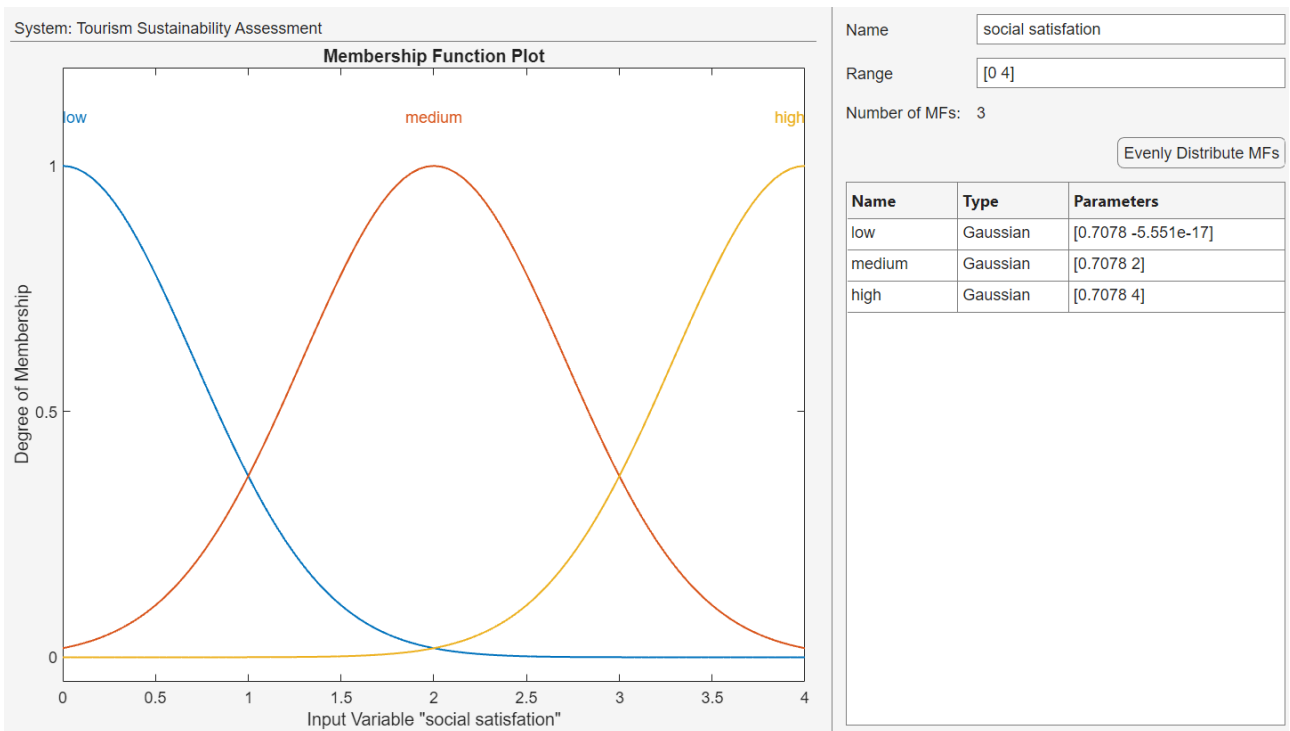


Fig. 41: Membership function used to describe the SSA. Source: Author.

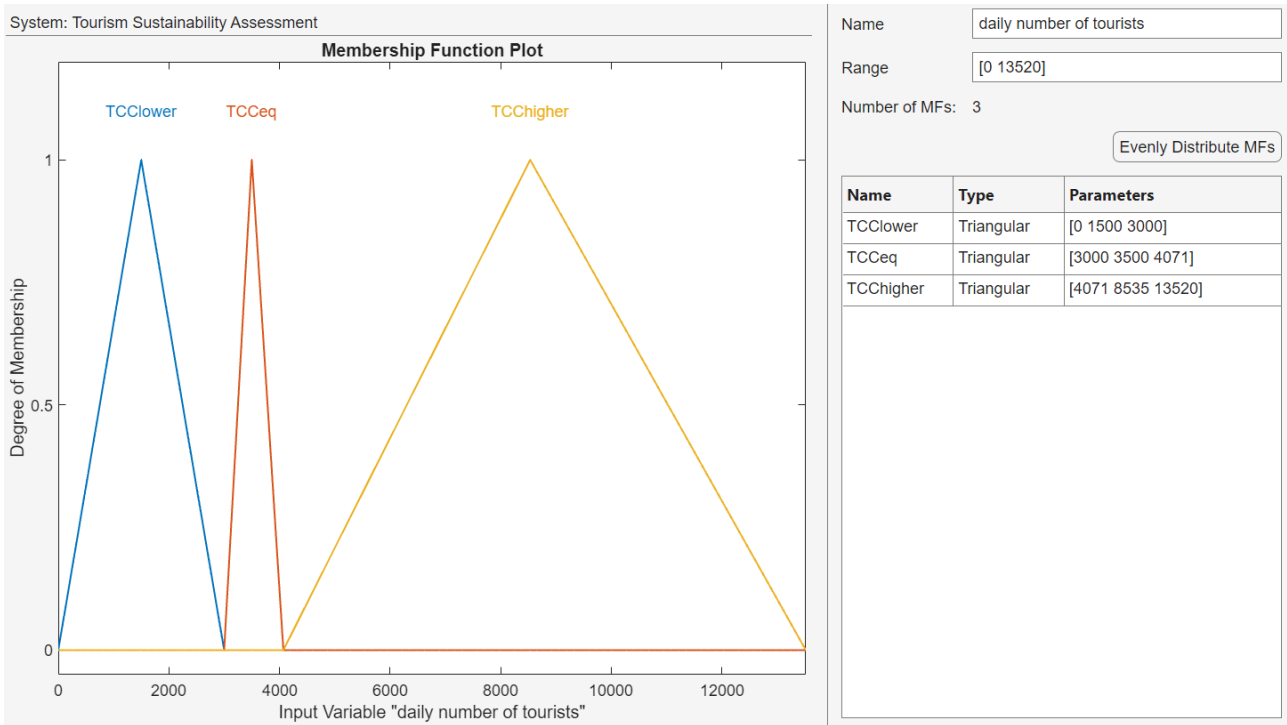


Fig. 42: Membership function used to describe the relationship between the TCC and the daily number of tourists. Source: Author.

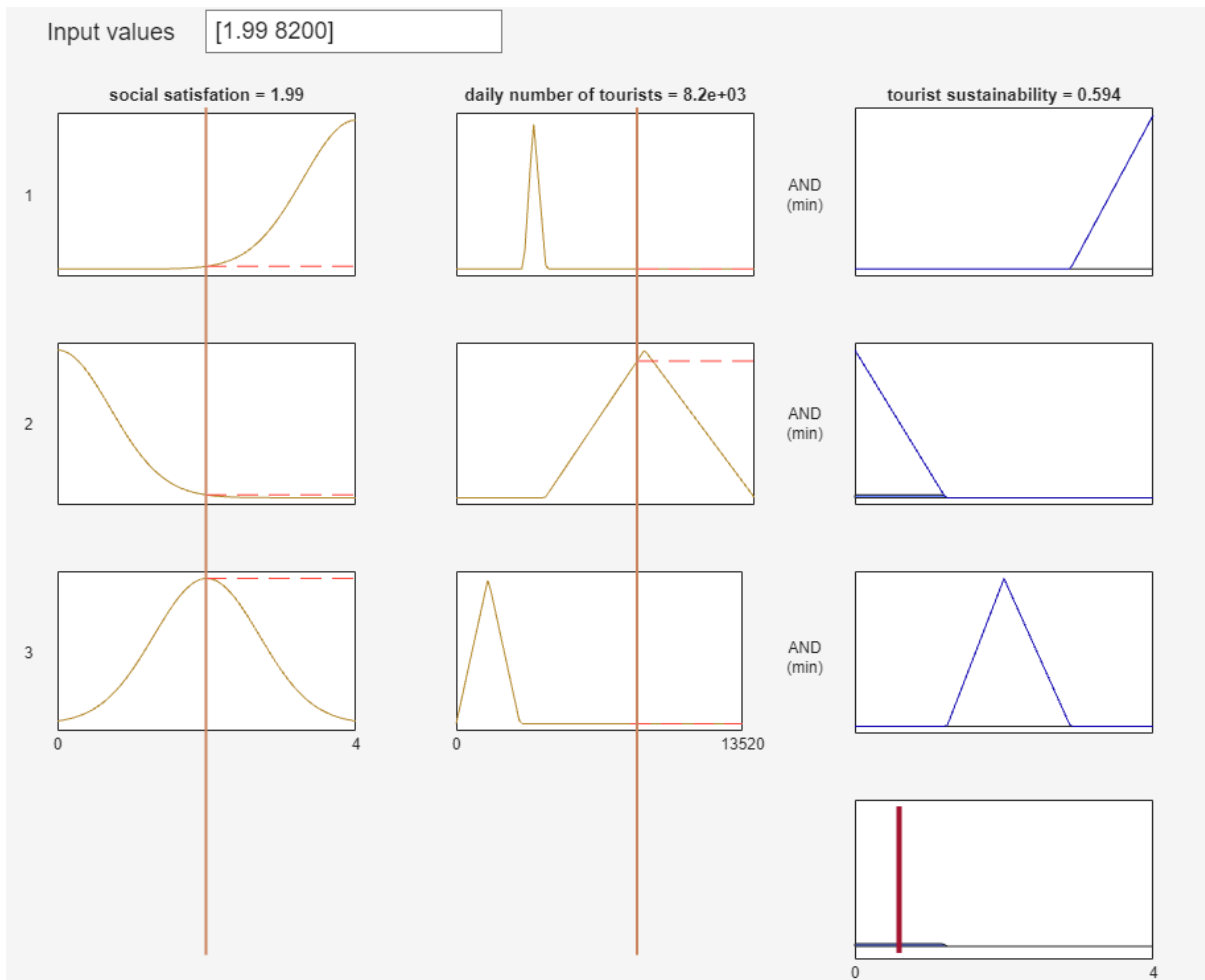


Fig. 43: Results that describe the tourist sustainability assessment. Source: Author.

### 4.2.3 Community involvement, Cinque Terre National Park STP

The participation of the community and local stakeholders has been crucial in drafting the Sustainable Tourism Plan for the Cinque Terre National Park. Several meetings were organized on the territory with local administrators, tourism and commercial activities, and various associations. Additionally, a dual questionnaire was distributed—one for residents and one for visitors—to understand their perception of tourism development within the park area. The people met have always been very helpful, showing a particular attention to the theme of tourism and the need to establish a new balance. The questionnaire for residents was distributed thanks to the collaboration with the three municipalities, various residents, and the *Smarturista* cooperative. Thanks to this valuable assistance, 350 responses were collected from residents.

Considering the population of 3483 inhabitants across the three municipalities, the responses obtained ensure a confidence interval of 5%. The same confidence interval also applies to the responses from tourists, where a sample of 380 was taken from approximately three million visitors. In this case, the questionnaires were mainly conducted on-site during four sampling phases, one for each season, to highlight differences in responses based on the time of year.

**Resident survey:** The questionnaire includes both negative and positive impacts of tourism, aiming to maintain a neutral view without influencing the surveyed sample. Specifically, residents were asked to rate the magnitude of the impact of various topics on a scale of 1 to 4, allowing for the option "don't know." The topics alternate between those considered positive returns on the territory linked to tourism development (e.g., increased well-being, quality of life, historical heritage recovery, new jobs, preservation of the natural environment and historical heritage) and those with negative impacts on the host community (e.g., increased cost of housing, food, services; production of dirt and waste; loss of local identity; crowding of places; degradation of natural and cultural sites).

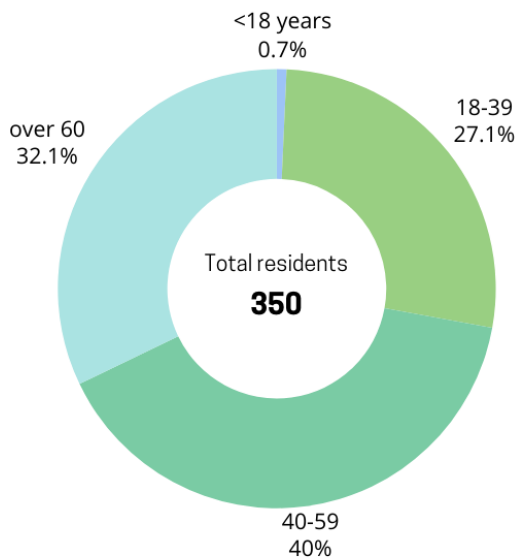
Residents are also asked to assess how the quality of life in their area has changed over the last ten years, using a scale of 1 to 5 where 1 means "worsened" and 5 means "much improved." The residents' questionnaire includes general information about the person (gender, municipality of residence, age) and inquires whether they work in the field of tourism. This helps evaluate actual resident employment in the industry and assess if there is a difference in perception based on occupation.

Finally, the questionnaire prompts residents to suggest ideas for more sustainable tourism within the Cinque Terre Park. It proposes a series of interventions and allows respondents to add their own suggestions through a free response format.

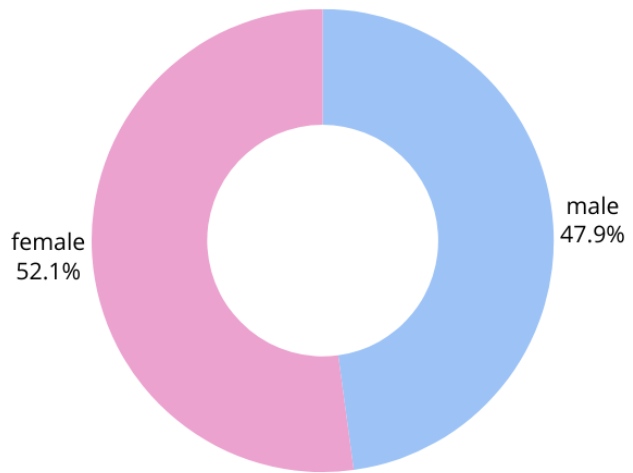
All the questions asked have followed the generic schema outlined in Chapter 3.

Of the 350 people who responded, only 0.7% are under 18 years old, 27.3% are between 18 and 39 years old, 40.4% are between 40 and 59 years old, and 31.6% are over 60 years old. The sample consists of 52.4% females and 47.6% males. Regarding the distribution across the three municipalities of the park, 35.3% of the respondents are from Riomaggiore, 35.1% from Vernazza, and 32.5% from Monterosso (Fig. 44).

### AGE



### SEX



### MUNICIPALITY OF RESIDENCE

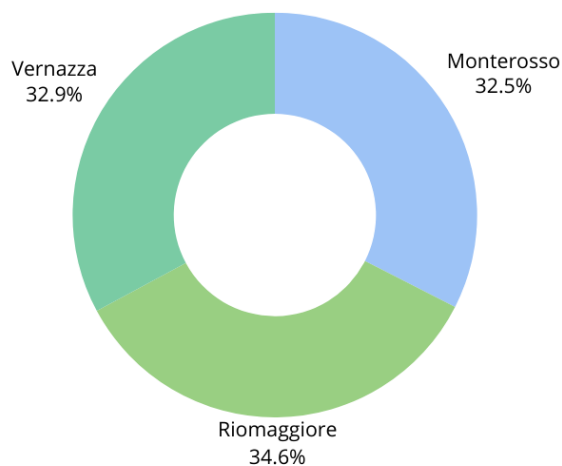


Fig. 44: Sample characteristics. Source: Author.

The majority of the sample, 71.4%, considers tourism as an opportunity/resource, demonstrating that they do not have a negative judgment a priori. However, 24.9% consider it a problem, and only 3.7% claim not to know how to respond (Fig. 45).

**TOURISM FOR YOU IS...**

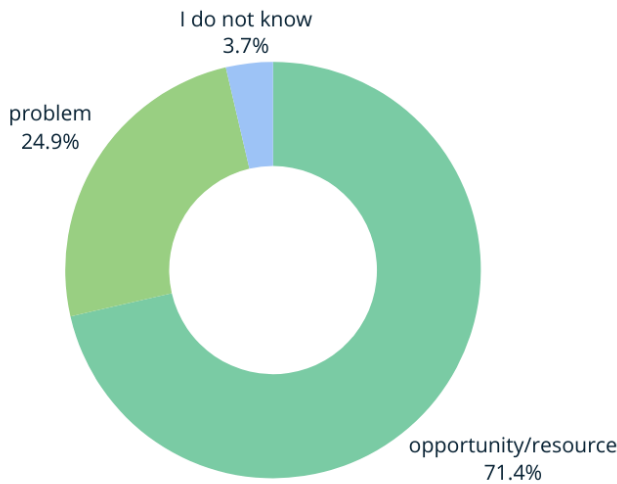


Fig. 45: Characteristics of tourism according to the sample surveyed. Source: Author.

Despite tourism not being considered a problem, most residents have seen a decline in their quality of life over the last 10 years (62.35). This period was chosen because it corresponds to the boom in tourist arrivals. For 36,8% of people, their quality of life has significantly worsened; for 22,5%, it has worsened; for 21.8%, it has remained the same; for 10,4%, it has improved, and for 8,6%, it has significantly improved (Fig. 46). Only 19% observe an improvement in their living conditions.

**IN THE LAST TEN YEARS, HOW HAS YOUR QUALITY OF LIFE CHANGED?**

where 1 is much worse and 5 much better

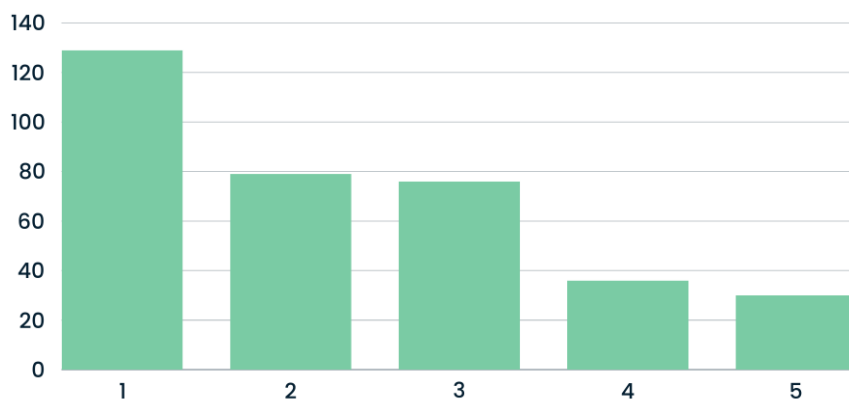


Fig. 46: Perception of quality of life over the past 10 years (1 very bad; 5 much better). Source: author.

In response to the question regarding the impacts of tourism, the majority of residents highlight a significant impact on the increase in costs and overcrowding (Fig. 47). Additionally, there are noteworthy impacts on local identity. However, it is recognized by almost all respondents (81%) that tourism has the potential to create job opportunities. Interestingly, most residents do not believe that tourism can enhance safety and environmental protection. This perspective, especially the latter consideration, is in contrast to the creation of the park.

### HOW MUCH DO YOU THINK TOURISM INFLUENCES THE FOLLOWING TOPICS?

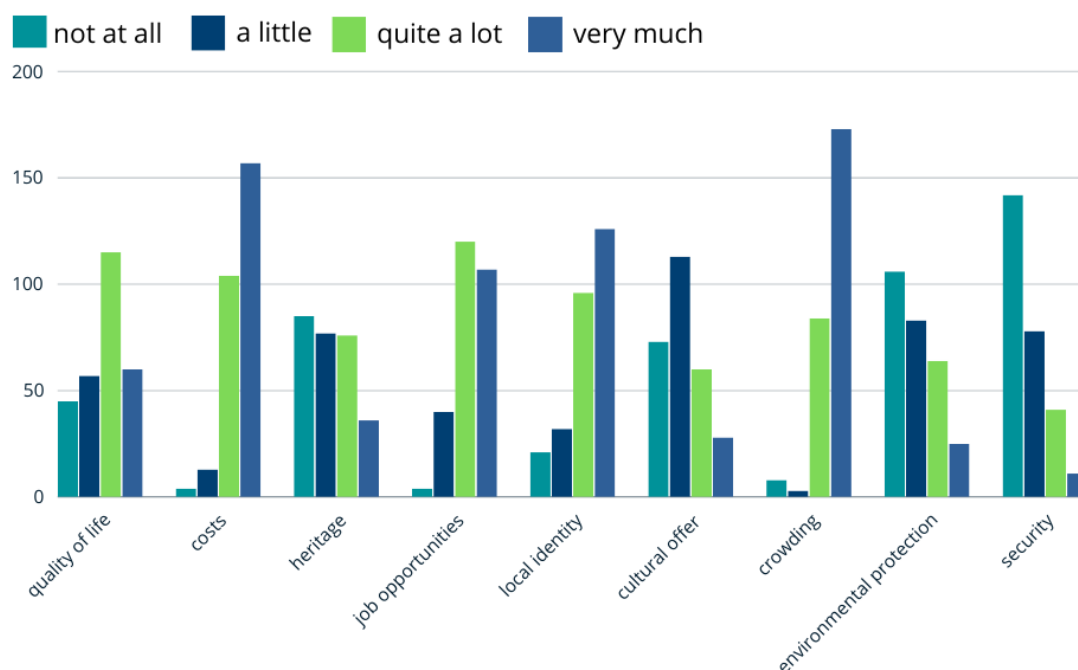


Fig. 47: Impacts of tourism on different topics. Source: author.

Subsequently, the questionnaire asks whether the development of tourism has contributed to the improvement of certain services for residents (Fig. 48). Only banking services (especially the proliferation of ATMs) seem to have slightly improved, while waste management, healthcare services, parking, and the presence of public offices appear to have worsened. Regarding transportation, the sample is divided about halfway, with about 52% believing that it has improved sufficiently and others thinking it has worsened. This response is not surprising, as tourism has certainly contributed to increased train services, thus improving the overall offering. However, during the high season, due to the massive influx of tourists, it becomes very difficult for residents to access stations and trains, as repeatedly mentioned in on-site meetings: "one feels like a hostage in one's own country."



## HAS TOURISM IMPROVED THESE SERVICES?

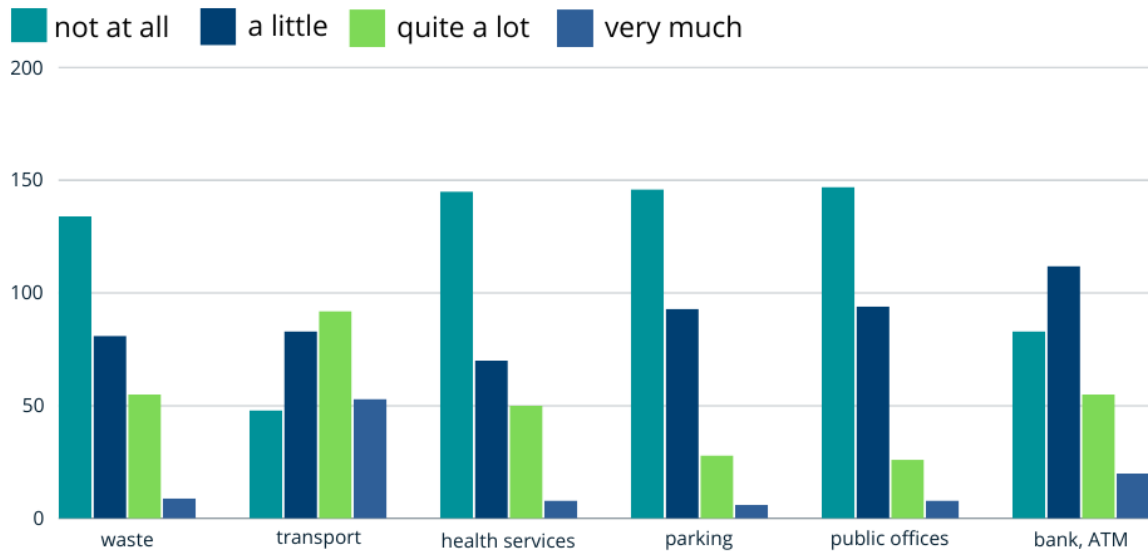


Fig. 48: Tourism positive impacts on local services. Source: Author.

The answer to the next question is the most concerning aspect of the entire questionnaire. 61.4% of the interviewed individuals claim to have considered moving elsewhere to live (Fig. 49).

## HAVE YOU EVER THOUGHT OF MOVING SOMEWHERE ELSE?

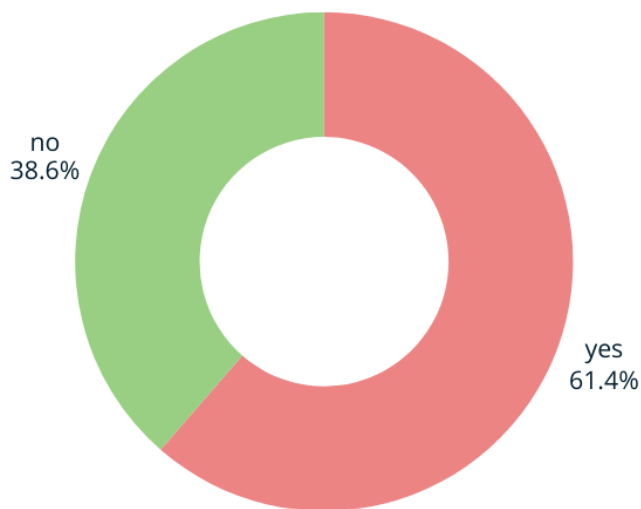


Fig. 49: Residents' desire to move. Source: Author.

This response was then analysed in conjunction with the age and origin of the sample. It is interesting to note that 100% of those under 18 who completed the questionnaire want to leave, as well as 68% of individuals aged 18-39, 59% of those aged 40-59, and 57% of those over 60. This demonstrates an inverse relationship between the inclination to move and the age of the sample.

Regarding origin, 68% of respondents from Vernazza, 61% from Monterosso, and 54% from Riomaggiore answered affirmatively. Finally, 61% of respondents who claim not to work in the field of tourism expressed a desire to move, compared to 55% of those who work in tourism. In this case, the 55% is surprising, as it involves individuals who, despite having an activity or income tied to tourism, prefer to live outside the park.

To those who responded that they would like to move elsewhere, they were also asked to specify the reasons. In the majority of cases (28.5%), the reason is linked to the lack of services for residents, followed by the presence of too many tourists (26.28%), and then an increase in the cost of living (21.83%) and property prices (15.27%) (Fig. 50). About thirty people wanted to justify their response differently. In particular, among the motivations, we find: loss of identity, difficulty in using public transportation, especially trains, noise and crowding, and finally, difficult accessibility for those with mobility issues.

### IF YES, WHY WOULD YOU LIKE TO MOVE?

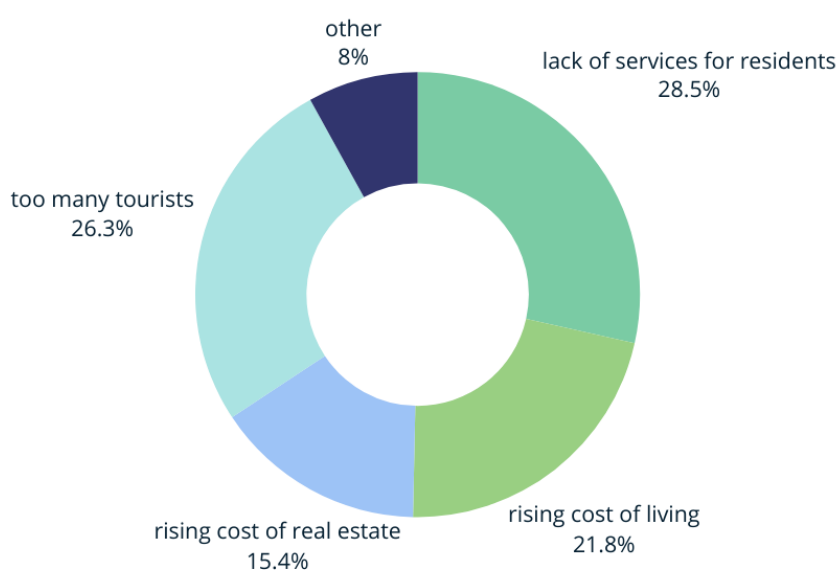


Fig. 50: Motivations that make people want to move. Source: author.

The second-to-last group of questions concerns the employment situation of the sample. It is interesting to note that despite an overall negative assessment of tourist phenomena within the park, 52.5% of the sample works in the field of tourism (Fig. 51). In most cases, these are not newly established activities; in fact, 36.7% have existed for more than twenty years, 28.6% for 10-20 years, 27.2% for 5-10 years, and only 7.5% have been opened in the last five years. 69.9% are owners of the business, while those employed in another's business are almost evenly divided between seasonal and year-round activities, with a slight prevalence of the former (+5%). Lastly, it is interesting to note that half of the people working seasonally do not think they receive fair compensation.

### DO YOU WORK IN THE FIELD OF TOURISM?



Fig. 51: Employment situation of the sample in relation to tourism. Source: author.

The last question concerns the solutions to adopt to make tourism more sustainable within the park. The response allowed for the possibility of checking multiple options and also inserting alternative solutions. The most strongly expressed request is to better distribute the arrival of tourists throughout the year (selected 193 times). Secondly, to distribute the economic revenues of tourism in the area and the establishment of a water purification system (selected 183 and 178 times, respectively). In fourth place, the surveyed sample asks to promote new points of interest within the park to avoid the concentration of tourists in a few areas (marinas, beaches...) (145), and only as the fifth option, the introduction of a visitor quota appears, virtually tied with more decisive policies to reduce waste production and energy consumption (selected 140 and 139 times, respectively). In the last two positions, but still widely

selected, there is a greater focus on the sale and consumption of local products (118) and the need to manage public transportation by train differently (103) (Fig. 52).

## WHAT WOULD YOU DO TO MAKE TOURISM MORE SUSTAINABLE?

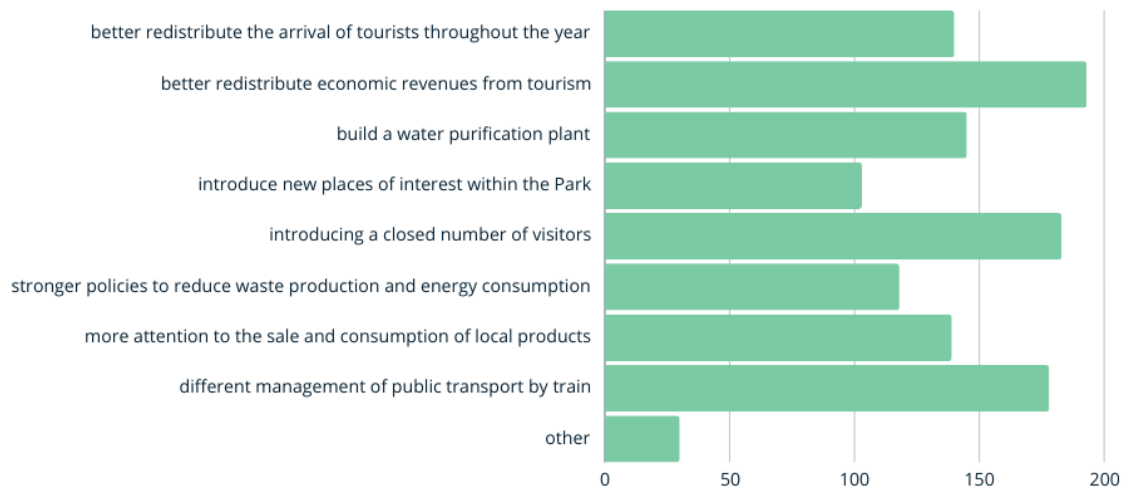


Fig. 52: Solutions to adopt to make tourism more sustainable within the park. Source: author.

The responses of those who wanted to suggest their own actions to make tourism in the Cinque Terre more sustainable are also very interesting. Below are some of the proposed ideas:

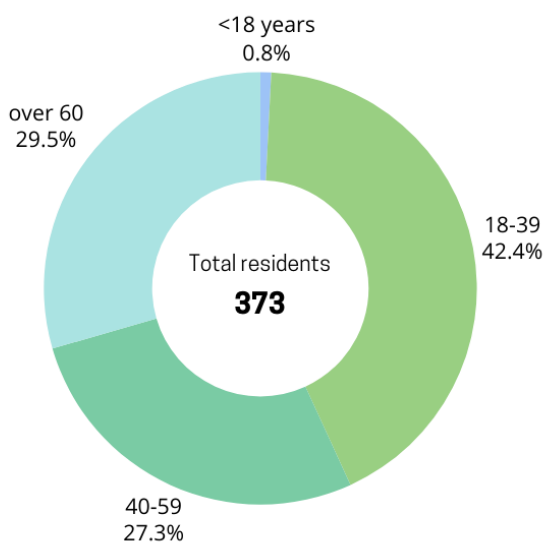
- Daily limitation for large organized groups, especially those coming from cruises, to avoid an 'invasion';
- No organized groups from March to November;
- Limitations on short-term rentals, as it is increasingly difficult for younger people to find housing;
- Sustainable establishments to guide visitors towards responsible choices and consumption;
- Elimination or at least containment of fast-food establishments to support those selling local products;
- Promotion of wine tourism and attention to agriculture;
- Making known the history of villages linked to agriculture and not just the sea;
- Proposals to encourage people to stay in the area for more days, for example through tourist packages with the Val di Vara;
- Entrance fee for those who do not stay in the municipalities.

**Tourist survey:** The questionnaire for visitors aims to assess the actual economic impacts (average daily expenditure; whether they stayed within the Cinque Terre National Park and for how many nights; ...), environmental impacts (the type of transportation used to reach the park and within it; ...), and social impacts (whether they interacted with the local population; if they participated in cultural, sports, gastronomic events...) of tourism. Additionally, it seeks visitors' impressions of the destination, whether they would recommend it to a friend, and their evaluation of various services within the park area. The questionnaire concludes by asking tourists about the importance of sustainability in their travels.

The 373 responses were collected on-site throughout all four seasons. The sample size allows for a confidence interval of 5%. The sample is predominantly composed of individuals between the ages of 18 and 39 (42.4%), followed by those over 60 at 29.5%. In this case, individuals under 18 constitute a residual part (0.8%). Females have responded slightly more than males, making up 53.5% of the sample (Fig. 53).

Regarding nationality, 61% are foreigners, while 39% are Italian. Americans are the most prevalent at 27%, followed by Germans at 12%, and tied for third place are the French and Spanish at 10% each. Concerning Italians, the most represented regions are Liguria and its neighbouring regions, primarily Lombardy, followed by Piedmont and Tuscany. Only a small number of people come from the Southern regions of Italy.

**AGE**



**SEX**

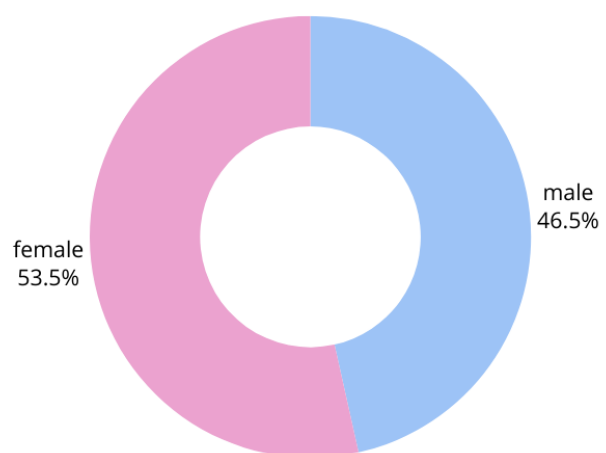
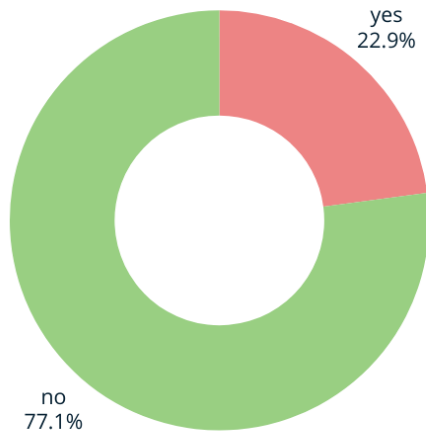


Fig. 53: Sample analysis, age and gender. Source: author.

It is interesting to see how the majority of tourists did not stay within the park (77.1%) (Fig. 54). This data demonstrates that a significant portion of economic revenue does not remain within the three municipalities of Monterosso, Riomaggiore, and Vernazza. During the questionnaire administration, many visitors also showed a lack of awareness of being within a park area and had difficulty answering the question.

**DID YOU SLEEP IN THE CINQUE TERRE NATIONAL PARK?**



**WHERE DID YOU SLEEP?**

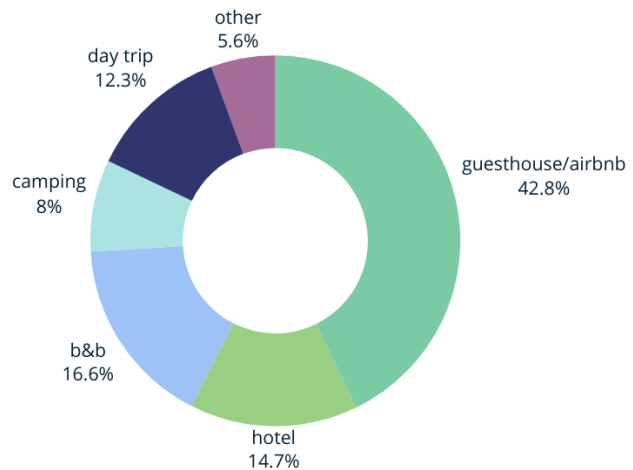


Fig. 54: Tourist overnights analysis. Source: author.

Regarding transportation, 81% of tourists said they used the train within the park, while 16% said they travelled on foot. Other means of transportation, such as car, boat, and bicycle, accounted for only 3%. This shows that practically only sustainable modes of transportation are used. However, there are different responses regarding the means used to reach the park. 33.3% claim to have used a car, 35% an airplane, and 15% a cruise ship.

80% of visitors claim not to have participated in any events; however, 9.8% followed cultural events, 6.7% participated in food and wine events, and 1% in sports events. 25.8% of tourists had no interactions with local residents, while 39.6% declare themselves quite satisfied with the relationships they had with the local community. 14.7% were somewhat dissatisfied, and only 15.1% were very satisfied.

Only 8.3% claim to have visited other villages within the park outside of Monterosso, Vernazza, Corniglia, Manarola, and Riomaggiore. 32% of the sample walked the trails, and 4.2% visited the marine protected area.

In response to the question about crowding, it is clear that the majority of visitors believe that the Cinque Terre National Park is either very crowded (60.8%) or somewhat crowded (24.5%) (Fig. 55). Combining this response with the season in which the park was visited, it emerges that 100% of those who answered that the park is not crowded at all visited it in winter. Those who think it is slightly crowded visited the park in 68% of cases in winter and 32% in autumn.

Visitors reporting the worst experiences are those who visited the park in spring (40%) and summer (36%), with some exceptions in the winter period (13%) and autumn (11%).

The assessment of the level of crowding is also negative because the majority of the sample visited the park in spring and summer, accounting for 35% and 30% of the interviewed individuals, respectively. Interviews were conducted throughout all seasons, but fewer people responded in autumn and winter due to significantly lower attendance compared to other times of the year.

### **DO YOU THINK THE CINQUE TERRE NATIONAL PARK IS TOO CROWDED?**

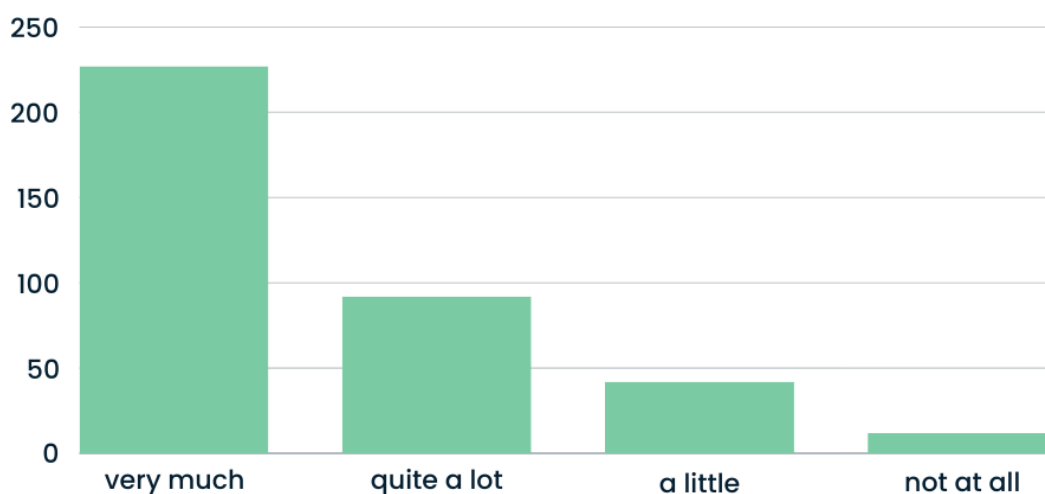


Fig. 55: Evaluation of the crowding of the park by tourists. Source: author.

The last question showed that the majority of tourists (70%) are already aware that sustainability is important during their travels (Fig. 56). Only one person stated that they are not interested in sustainability.

## DO YOU THINK SUSTAINABILITY IS IMPORTANT IN A TRIP?

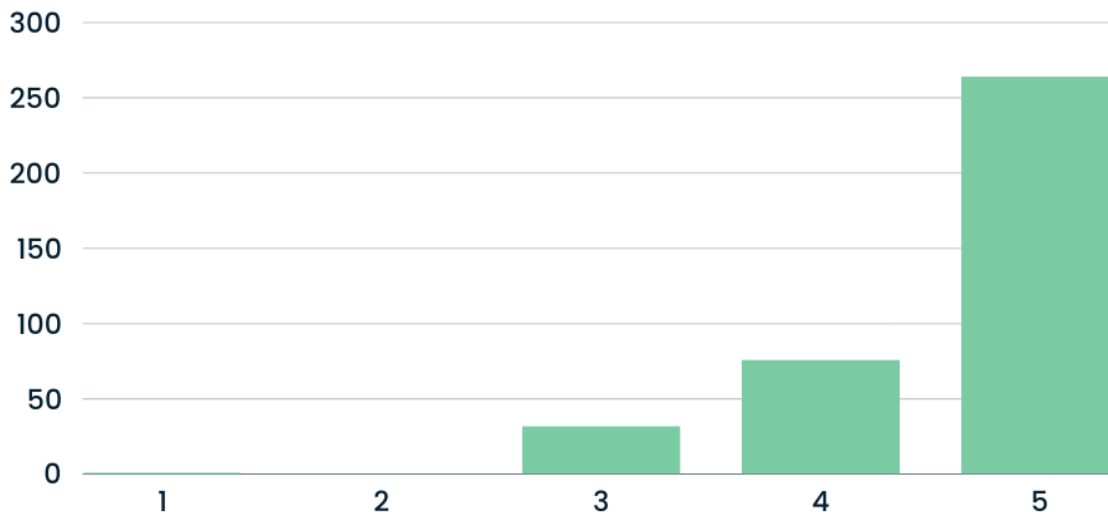


Fig. 56: L'importanza della sostenibilità per i turisti. Source: author.

### 4.2.4 Planning part, Cinque Terre National Park STP

- **Goals determination**

From the analysis phase, particularly in calculating the level of tourism sustainability in the Cinque Terre National Park, it is evident that it is a saturated destination. The level of social satisfaction is very low, and the tourist carrying capacity is much lower than the average number of daily tourists for a destination. This implies an excessive concentration of people in a specific place at a particular time. In this type of destination, the objectives to be implemented through the plan include:

- Reducing and managing tourist numbers
- Seasonal adjustment
- Security and accessibility
- Improving relations between residents and tourists
- Enhancing environmental sustainability (as outlined in Table 20 of Chapter 3).

These goals aim to drastically reduce the number of visitors during the high season to get to have about 4000 visitors every day of the year, that is to always respect the capacity of tourist load of the park. It is not previewed a limited number for the single visitors while they will have a limit the great organized groups (international tour operators, passengers of the cruises, ...) that is, those visitors who have a greater



negative impact from a social and environmental point of view and a lower economic impact. Through this strategy it is possible to guarantee the economic return for the economic activities on the territory while respecting the local communities and the natural environment of the park.

These objectives are achieved through the identification of 15 different actions (Table 34), determined based on the results obtained from the analysis of the current tourism development within the park and the involvement of local communities through questionnaires, interviews, and meetings. A specific descriptive table is then provided for each action in the following section 3.2 (Tab. 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49).

<b>OBJECTIVE</b>	<b>Suggested action and strategies</b>
<b>Reducing tourist numbers</b>	<ol style="list-style-type: none"> <li>1. Policies to regulate short-term rentals (Airbnb)</li> <li>2. Agreements with cruise companies, tour operators and tour guides</li> <li>3. Agreements with Trenitalia</li> </ol>
<b>Seasonal adjustment</b>	<ol style="list-style-type: none"> <li>4. Diversification of the tourist products</li> <li>5. New tourist targets</li> <li>6. Valorisation of the hiking trail</li> <li>7. Price Policies (discounts for hotel and for the Cinque Terre Card in low season...)</li> </ol>
<b>Better security and accessibility</b>	<ol style="list-style-type: none"> <li>8. ICT for tourism management</li> <li>9. Civil protection plan of the UNESCO site</li> </ol>
<b>Improve the relationship between residents and tourist</b>	<ol style="list-style-type: none"> <li>10. Charter of Visitors' Rights and Duties to promote Responsible Tourism</li> <li>11. Economic returns on the territory</li> <li>12. Involvement of the local community in tourism planning</li> </ol>
<b>Improve environmental sustainability</b>	<ol style="list-style-type: none"> <li>13. Support for agriculture and stone wall restoration</li> <li>14. Incentives for accommodation facilities for energy efficiency</li> <li>15. Reduction in consumption and management of resources</li> </ol>

Tab. 34: Objectives and actions of the PTS for the Cinque Terre Park. Source: author.

- **Design and identification of actions**

First objective: REDUCING TOURIST NUMBERS	
<b>1. ACTION</b>	<b>Policies to regulate short-term rentals (Airbnb)</b>
<b>Area of intervention</b>	All coastal municipalities in the Province of La Spezia
<b>Description</b>	<p>Authorisations/licences; residency requirement for hosts; time-cap (max. 120 rental days per year); authorisation of third parties (condominium, landlord); zone restrictions, with off-limit areas. These different types of regulations must be provided for within a national law for the management and limitation of short-term rentals at least in destinations subject to overtourism. In the case of the Cinque Terre, the law must give space for the Liguria region and the Cinque Terre Park to study an implementing regulation together with the three municipalities involved.</p> <p>In order to curb the progressive gentrification of the areas concerned and the departure of residents, many European tourist cities have introduced restrictions on the spread of short-term rentals. Italy - where the highest density of homes registered on Airbnb is concentrated mainly on the coasts and in the most touristy cities such as Rome, Florence, Milan and Venice - is far behind in this respect. Not only that. Italian cities are now the only ones in Europe not to have introduced regulations and restrictions on the conversion of residential dwellings into short-term rentals to tourists.</p> <p>In Italy, tourism matters are concurrent between the State and the Regions, which is why a national law is needed to limit short-term rentals at least in destinations subject to overtourism. However, this law must give space to the regions, leaving them the task of defining implementing regulations linked to local specificities.</p>
<b>References/Good practices</b>	Amsterdam, Barcelona, Bruxelles, Paris Bei, G., & Celata, F. (2023). Challenges and effects of short-term rentals regulation: A counterfactual assessment of European cities. <i>Annals of Tourism Research</i> , 101, 103605.
<b>Time</b>	12 months
<b>Actors</b>	National government, Liguria Region
<b>Budget</b>	no budget required
<b>Monitoring indicator</b>	National law to regulate short-term rentals approved in overtourism destinations

Tab. 35: First action and first objective. Source: Author.

<b>2. ACTION</b>	<b>Agreements cruise companies and tour operators</b>
<b>Area of intervention</b>	Cinque Terre National Park
<b>Description</b>	<p>To reduce the number of tourists in the high season, it is necessary to make agreements with cruise companies and tour operators (especially international ones). In particular, it is necessary to:</p> <ul style="list-style-type: none"> <li>- spread the arrivals of <i>Costa Crociera</i> ships in the port of La Spezia better over the course of the year;</li> <li>- set a maximum number of visitors for organised groups, especially in the high season.</li> </ul> <p>Given the difficulty of making agreements with large economic players and the fact that tourism is a shared discipline between the state and the regions, it is necessary to study a national law.</p>
<b>References/Good practices</b>	<p>Venice, Barcelona and Amsterdam</p> <p>In 2021, Venice banned large cruise ships from anchoring in its historic centre due to concerns about environmental damage to the lagoon. The ban, prompted by UNESCO's warning, restricts access to Venice's Giudecca canal. Similar concerns led Barcelona to close its North terminal to cruises, redirecting ships to the Moll d'Adossat pier away from residential areas. Barcelona also limited the number of simultaneous cruise ships to seven as part of an agreement with local authorities, with plans to close the South terminal by 2026.</p> <p>Amsterdam's city council voted to close its cruise terminal, favoring relocation away from the city centre to address pollution and reduce tourist influx. The move aligns with the city's negative perception of large cruise ships, reinforced by a cruise ship passenger tax implemented in 2019.</p> <p>Nikčević, J. (2019). Strengthening the role of local government to ensure sustainable development of the cruise sector: The case of Kotor. <i>Marine Policy</i>, 109, 103693.</p> <p>Navarro-Ruiz, S., Casado-Díaz, A. B., &amp; Ivars-Baidal, J. (2020). Cruise tourism: The role of shore excursions in the overcrowding of cities. <i>International Journal of Tourism Cities</i>, 6(1), 197-214.</p>
<b>Time</b>	12 months
<b>Actors</b>	National Government; Liguria Region; Cinque Terre National Park; Monterosso; Riomaggiore and Vernazza
<b>Budget</b>	no budget required
<b>Monitoring indicator</b>	<p>n° of agreements with cruise companies</p> <p>n° of agreements with tour operators</p>

Tab. 36: Second action and first objective. Source: Author.

<b>3. ACTION</b>	<b>Agreements with Trenitalia</b>
<b>Area of intervention</b>	From Levanto to La Spezia
<b>Description</b>	<p>This action includes:</p> <ul style="list-style-type: none"> <li>- an increase in trains in the low season and a reduction in the high season;</li> <li>- a reduction in fares;</li> <li>- Free train card for those staying in the municipalities of Monterosso, Riomaggiore and Vernazza;</li> <li>- a compulsory reservation for large groups in order to better distribute arrivals.</li> </ul> <p>Region and Liguria under a recent agreement with Trenitalia has proposed raising train fares in the Cinque Terre municipalities. Cinque Terre Express to double its cost (EUR 24) on Saturdays and Sundays between 16 March and 3 November, while a Park Card would cost up to EUR 32 for the same period, compared to EUR 18 today.</p> <p>This manoeuvre has been severely criticised by the inhabitants and the economic sector within the park as it does not serve to limit the arrival of large groups, but in fact makes the Cinque Terre inaccessible to large numbers of tourists and does not favour those who sleep in the park. The inhabitants have also denounced the difficulty of being able to maintain social relations since the train is practically the only means that relatives and acquaintances can take to visit them, but with such high prices it will be difficult to receive visitors. The same difficulty was denounced by those who work in the business sector and need to be able to count on affordable public transport for their customers. This action wants to reach a new agreement with Trenitalia that takes into account the needs of the territory through a process of listening and participation.</p>
<b>References/Good practices</b>	Mazzola, F., Cirà, A., Ruggieri, G., & Butler, R. (2022). Air transport and tourism flows to islands: A panel analysis for southern European countries. <i>International Journal of Tourism Research</i> , 24(5), 639-652.
<b>Time</b>	6 months
<b>Actors</b>	Liguria Region; Trenitalia; Cinque Terre National Park after a participatory process with local stakeholders
<b>Budget</b>	no budget required
<b>Monitoring indicator</b>	Renewal of the commercial agreement with Trenitalia

Tab. 37: Third action and first objective. Source: Author.

Second objective: **SEASONAL ADJUSTMENT**

<b>4. ACTION</b>	<b>Diversification of the tourist products</b>
<b>Area of intervention</b>	Province of La Spezia
<b>Description</b>	<p>This action includes:</p> <ul style="list-style-type: none"> <li>-making known unused parts of the park (at present, almost all tourists use 3% of the total park area) such as the route of Sanctuaries (Fig. 57 and 58);</li> <li>- focusing the park's tourist offer on ecotourism, cultural tourism and food and wine tourism;</li> <li>-encourage outdoor tourism in the low season, considering that the weather is mild for most of the year and that hiking in autumn and winter is much more pleasant than in the heat of summer and late spring. Due to climate change, moreover, winters are getting milder and summers hotter and drier;</li> <li>-involve the whole province of La Spezia and in particular its hinterland, e.g., the Val di Vara, in the tourist diversification;</li> <li>- study a modular proposal over several days (4 to 8) within the park and the province of La Spezia to extend tourists' stays and counteract hit-and-run holidays;</li> <li>-propose cultural and sporting events with festivals taking place during the low season. It is suggested to study a festival to rediscover the rural past of the Cinque Terre villages and the landscape of dry-stone walls.</li> <li>-Creation of an itinerant, experiential ethnographic museum that tells the story of the interaction between man and nature that led to the creation of today's landscape of dry-stone walls.</li> </ul>
<b>References/Good practices</b>	<p>Weidenfeld, A. (2018). Tourism diversification and its implications for smart specialisation. <i>Sustainability</i>, 10(2), 319.</p> <p>Purnomo, A., Wiradimadja, A., &amp; Kurniawan, B. (2019, March). Diversification of tourism product in KSPN Ijen. In <i>IOP Conference Series: Earth and Environmental Science</i> (Vol. 243, No. 1, p. 012079). IOP Publishing.</p>
<b>Time</b>	24 months
<b>Actors</b>	Liguria Region, Cinque Terre National Park, Chamber of commerce
<b>Budget</b>	2 million €
<b>Monitoring indicator</b>	n° of new tourist products

Tab. 38: Fourth action and second objective. Source: Author.





Fig. 57: Route of Sanctuaries inside the Cinque Terre National Park. Source: author.



Fig. 57: Sanctuary of Montenero (Riomaggiore). Source: Linoalmostudio.

Second objective: SEASONAL ADJUSTMENT

5. ACTION	New tourist targets
Area of intervention	Province of La Spezia
Description	<p>To attract tourists during all seasons, new target groups of visitors interested in tourism in autumn and winter must be identified.</p> <p>Actions include:</p> <ul style="list-style-type: none"> <li>- incentivising people who live near the Liguria region to do local tourism, especially at times of the year when holidays are shorter than in summer. At present, the Cinque Terre are mainly visited by foreign tourists who only have the opportunity to come to Italy during the summer holidays. To get people to come in winter, it is important to approach a proximity target;</li> <li>- targeting the specificities for which tourists visit the Cinque Terre, in order to encourage thematic tourism focused on trekking, food and wine, life in agritourism/farms and in general the experiences that characterise each place;</li> <li>- attracting people from countries with a different school and holiday calendar from the Italian/European one;</li> <li>- creative and experiential workshops aimed especially at children and families related to the man-made and natural features of the park</li> </ul> <p>The aim is therefore to target walkers, enthusiasts of typical products, families and lovers of nature and landscape, interested in learning about the productive life of a place such as the olive harvest or the grape harvest. Initiatives of the woofing type attract visitors who stay in the area for a long period of time.</p>
References/Good practices	Tsiotsou, R. H., & Goldsmith, R. E. (2012). Target marketing and its application to tourism. Strategic marketing in tourism services, 1
Time	12 months
Actors	Liguria Region, Cinque Terre national Park
Budget	no budget required
Monitoring indicator	n° of new target groups identified

Tab. 39: Fifth action and second objective. Source: Author.

Second objective: SEASONAL ADJUSTMENT	
<b>6. ACTION</b>	<b>Valorisation of the hiking trail</b>
<b>Area of intervention</b>	Cinque Terre National Park
<b>Description</b>	<p>To alleviate the congestion in the squares and crowded beaches of the villages, it is necessary to encourage visitors to explore higher-altitude paths. It is particularly important to promote less-traveled trails (Fig. 59 and Fig. 60), as most walkers concentrate along the lower path connecting the five villages. The hiking network in the park spans 120 kilometers, but tourists continue to crowd the 12 kilometers between Monterosso and Riomaggiore.</p> <p>To encourage the use of less-travelled paths, the following measures can be taken:</p> <ul style="list-style-type: none"> <li>- Promoting intermodality; it is possible to cover a portion of the route by bus to reach the higher-altitude villages and then continue on foot;</li> <li>- Making visitors aware of the opportunity to discover unexpected views of the Cinque Terre, considering that the area is saturated with selfie tourism seeking already endlessly reproduced perspectives;</li> <li>- Implementing updated on-site signage, combined with digital technology. In particular, it is recommended to enhance the park's trail app so that walkers can receive alerts with alternative paths and solutions in case of overcrowding on a particular route.</li> </ul>
<b>References/Good practices</b>	Santarem, F., Silva, R., & Santos, P. (2015). Assessing ecotourism potential of hiking trails: A framework to incorporate ecological and cultural features and seasonality. <i>Tourism Management Perspectives</i> , 16, 190-206.
<b>Time</b>	18 months
<b>Actors</b>	Cinque Terre National Park
<b>Budget</b>	500.000 €
<b>Monitoring indicator</b>	n° number of walkers before and after the implementation of the action on the less used paths of the park

Tab. 40: Sixth action and second objective. Source: Author.





Fig. 59: Map of little-used paths within the cinque Terre National Park. Source: author.



Fig. 60: Inland longitudinal path between Monterosso and Vernazza. Source: author.

Second objective: SEASONAL ADJUSTMENT	
<b>7. ACTION</b>	<b>Price Policies</b>
<b>Area of intervention</b>	Cinque Terre National Park
<b>Description</b>	<p>Pricing policies are aimed at both tourists and businesses working in tourism. In the former case, it will be possible to have discounts in the low season to encourage visitors to plan their trips between October and March. In the second, accommodation and catering establishments will be able to receive incentives to keep open all year round. Many people in fact do not go to the Cinque Terre in the low season for fear of finding everything closed.</p> <p>More specifically:</p> <ul style="list-style-type: none"> <li>-Discounts in low season for accommodation facilities and the Cinque Terre Train and Trekking Card;</li> <li>-Direct financing to hotels and restaurants through discounts on waste tax for those who ensure a number of openings even in the low season.</li> </ul> <p>Reducing the seasonality of tourism not only brings environmental and social benefits by reducing crowding but also economic benefits because it allows workers to have longer contracts.</p>
<b>References/Good practices</b>	Capri already allocated the first annual funding of 200,000 Euro in 2016 for commercial activities and public establishments that will remain open beyond the summer months. the contribution concerns all hotels, restaurants, bars and various commercial activities in the Municipality of Capri that remain open at least 250 days a year (of which 40 between November and December and 5 during the Christmas holidays) and is commensurate with a percentage of between 50% and 80% of the Waste Tax (Tari) paid for the year 2016.
<b>Time</b>	5 years strategy
<b>Actors</b>	Liguria Region, Municipalities of Monterosso, Riomaggiore, Vernazza, Trenitalia; Federalberghi, Chamber of Commerce
<b>Budget</b>	2,5 milion (500.000 € for 5 years)
<b>Monitoring indicator</b>	n° of discounts applied each year

Tab. 41: Seventh action and second objective. Source: Author.

Third objective: **BETTER SECURITY AND ACCESSIBILITY**

8. ACTION		ICT for tourism management
Area of intervention	Cinque Terre National Park	
Description	<p>Through the Park apps this action plans to send alerts when places or paths are too crowded, and give suggestions for activities, places or alternative paths.</p> <p>To make this system work, it is necessary to install people counters (Fig. 61) at all crowded points, such as stations and ports. Currently, there are people counters along some stretches of the most frequented paths within the park. Reducing overcrowding is primarily important for safety. During the summer, rescue vehicles cannot reach the villages due to the excessive crowd, and there is also a risk of falls on the tracks due to the overcrowding on the platforms. This tool can also be useful for diversifying the tourist product. When a location becomes too crowded, an alert is sent via the park's app, and new itineraries or places to visit are suggested (Fig. 62).</p>	
References/Good practices	<p>In 2015, the City of Dubrovnik initiated a smart city strategy, leading to the implementation of projects such as the Dubrovnik Visitors (Du Visitors) system, operational since 2019. This system uses cameras at city gates to track visitors entering the historic centre, providing real-time and historical data. Using machine learning, it generates predictions for more accurate forecasting. The Dubrovnik Card (DuCard), in use for a decade, offers discounts and access to attractions. The DuCard app, with iBeacons, notifies users of discounts near associated offers. A pilot study integrated Du Visitor and DuCard systems in the old town, sending notifications to DuCard users when visitor numbers exceeded 4,000. Notifications suggested alternative attractions and routes within the UNESCO Site to alleviate.</p> <p>Camatti, N., Bertocchi, D., Carić, H., &amp; van der Borg, J. (2020). A digital response system to mitigate overtourism. The case of Dubrovnik. <i>Journal of Travel &amp; Tourism Marketing</i>, 37(8-9), 887-901.</p>	
Time	18 months	
Actors	Cinque Terre National park, Monterosso, Riomaggiore, Vernazza, Trenitalia	
Budget	600.000 €	
Monitoring indicator	n° of number of sensors installed app with the alarm system	

Tab. 42: Eighth action and third objective. Source: Author.



Fig. 59: Existing and to be installed to monitor the crowding of paths and stations. Source: author.



Fig. 60: Implementation of the park app to avoid crowding and suggest new itineraries. Source: author.



Third objective: <b>BETTER SECURITY AND ACCESSIBILITY</b>	
<b>9. ACTION</b>	<b>Civil protection plan of the UNESCO site</b>
<b>Area of intervention</b>	Municipalities inside the UNESCO site
<b>Description</b>	<p>The Sustainable Tourism Plan for the Cinque Terre incorporates various initiatives, including a project aligned with the UNESCO site management plan (2020). This initiative focuses on establishing a unified Civil Protection Plan applicable across all municipalities within the UNESCO site.</p> <p>This consolidated tool aims to enhance coordination in rescue operations and facilitate seamless information sharing among diverse entities. The UNESCO-designated area faces heightened vulnerability from a hydrogeological standpoint. The October 2011 flood, resulting in 13 casualties and over 47.5 million in damages, underscores this susceptibility. Additionally, annual occurrences of landslides and shifts within the park pose ongoing risks to both residents and tourists.</p> <p>The urgency of this action is compounded by the anticipated escalation of extreme events in the coming years due to global temperature increases. Municipalities and other entities overseeing territorial planning must proactively consider the risks posed by such phenomena. This extends beyond civil protection efforts to encompass the comprehensive recovery of the territory. This involves strategic territorial planning, as well as targeted investments and incentives to revitalize cultivation on terraced lands.</p>
<b>References/Good practices</b>	Piano di gestione del sito UNESCO (aggiornato al 2020) <a href="https://www.portovenerecinqueterreisle.com/wp-content/uploads/2021/01/Revisione_PdG_2020.pdf">https://www.portovenerecinqueterreisle.com/wp-content/uploads/2021/01/Revisione_PdG_2020.pdf</a>
<b>Time</b>	24 months
<b>Actors</b>	Liguria Region, UNESCO offices, Municipalities inside the UNESCO site
<b>Budget</b>	150.000 €
<b>Monitoring indicator</b>	Civil protection plan of the UNESCO site

Tab. 43: Ninth action and third objective. Source: Author

Fourth objective: IMPROVE THE RELATIONSHIP BETWEEN RESIDENTS AND TOURIST	
<b>10. ACTION</b>	<b>Charter of Visitors' Rights and Duties to promote Responsible Tourism</b>
<b>Area of intervention</b>	Cinque Terre National Park
<b>Description</b>	<p>Traveling for tourism is a pleasant but also tiring activity. No matter how well it is planned in advance, there can always be unexpected events. This is why it is important to recognize the rights of tourists, which should be codified. At the same time, tourism has an impact on the local territory and its residents, so it is important to establish duties for visitors.</p> <p>For the Cinque Terre, it is therefore necessary to create a Charter of Rights and Duties for visitors. Among these rights are: the right to have clear and understandable information; to choose what to visit; to enjoy the beauty of a place; to be moved; to take photographs; to feel well and be respected.</p> <p>The fundamental duty of tourists is to respect the place they are visiting and to remember that the place, although temporary for them, is important to the people who live there. It is essential to narrate the history of the places and explain why they have been chosen as a UNESCO World Heritage Site and a national park.</p>
<b>References/Good practices</b>	<p>Useful reference for the realization of the charter of rights and duties of visitors is the Global code of ethics for tourism realized by UNWTO. This code is a fundamental tool of reference for responsible and sustainable tourism globally. In 1999, the General Assembly of the World Tourism Organization adopted the Code, and its subsequent recognition by the United Nations in 2001 explicitly urged UNWTO to actively support the implementation of its provisions.</p> <p><a href="https://webunwto.s3.eu-west-1.amazonaws.com/imported_images/37802/gcetbrochureglobalcodeen.pdf">https://webunwto.s3.eu-west-1.amazonaws.com/imported_images/37802/gcetbrochureglobalcodeen.pdf</a></p>
<b>Time</b>	6 months
<b>Actors</b>	Cinque Terre National park
<b>Budget</b>	15.000 €
<b>Monitoring indicator</b>	Charter of Visitors' Rights and Duties

Tab. 44: Tenth action and fourth objective. Source: Author.

Fourth objective: IMPROVE THE RELATIONSHIP BETWEEN RESIDENTS AND TOURIST	
<b>11. ACTION</b>	<b>Economic returns on the territory</b>
<b>Area of intervention</b>	Monterosso, Riomaggiore, Vernazza
<b>Description</b>	<p>This action is structured into three sub-projects:</p> <ol style="list-style-type: none"> <li>1. Shared management of resources from the tourist tax through the organization of meetings and assemblies between administrations and local communities. Private individuals working in tourism benefit from the money that comes to the Cinque Terre thanks to this sector. The rest of the inhabitants, however, find themselves having to bear only the negative effects of tourism. Investing through the sharing of project revenues in the territory allows directing the produced wealth, with positive consequences for the entire population and not just a part.</li> <li>2. Discount on the Cinque Terre Trekking and Train Card for those who stay within the park, thus aiming to support local tourist activities.</li> <li>3. Strengthening and dissemination of the Tourism Pact, a tool of the Liguria Region to assist those working in tourism by discouraging seasonal contracts.</li> </ol>
<b>References/Good practices</b>	<p>The Municipality of Genoa, together with the Chamber of Commerce and the associations of tourist accommodation activities, decides on the management of the tourist tax. The STP (Shared Tourism Project) not only involves those working in the sector but the entire community.</p> <p><a href="https://smart.comune.genova.it/contenuti/gestione-condivisa-delle-risorse-derivanti-da-imposta-di-soggiorno">https://smart.comune.genova.it/contenuti/gestione-condivisa-delle-risorse-derivanti-da-imposta-di-soggiorno</a></p>
<b>Time</b>	12 months
<b>Actors</b>	Region Liguria, Cinque Terre National Park, Monterosso, Riomaggiore, and Vernazza
<b>Budget</b>	----
<b>Monitoring indicator</b>	<p>Number of meetings</p> <p>Number of discounted cards</p> <p>Tourism Pact update</p>

Tab. 45: Eleventh action and fourth objective. Source: Author.

Fourth objective: IMPROVE THE RELATIONSHIP BETWEEN RESIDENTS AND TOURIST	
<b>12. ACTION</b>	<b>Involvement of the local community in tourism planning</b>
<b>Area of intervention</b>	Monterosso, Riomaggiore, Vernazza
<b>Description</b>	<p>Engaging the local community is crucial for sustainable tourism.</p> <p>The creation of economic value through tourism must occur without destroying the authenticity of the places; otherwise, the location itself is compromised. The involvement of the inhabitants of the Cinque Terre has already taken place in the drafting of the plan (through questionnaires, interviews, meetings) and will continue on at least an annual - preferably semi-annual - basis to monitor the results obtained from various actions. To succeed in this endeavour, the permanent committee for tourism in the Cinque Terre will be established with representatives from all stakeholders.</p> <p>Through the committee, local communities will be asked what they prefer to promote in the territory, what to safeguard, and what to modify compared to the current situation.</p>
<b>References/Good practices</b>	<p>In the Daylesford e Hepburn Springs (Victoria) e Byron Shire region of Australia there are citizens juries that participate with administrators, businesses in the tourism sector to decide together how to develop tourism.</p> <p>Wray, M., Dredge, D., Cox, C., Bultjens, J., Hollick, M., Lee, D., ... &amp; Lacroix, C. (2012). Sustainable regional tourism destinations: best practice for management, development and marketing. <i>Gold coast: CRC for Sustainable Tourism Pty Ltd.</i></p>
<b>Time</b>	6 months
<b>Actors</b>	Cinque Terre National Park, local stakeholders and municipalities
<b>Budget</b>	----
<b>Monitoring indicator</b>	Permanent Committee for Tourism in the Cinque Terre

Tab. 46: Twelfth action and fourth objective. Source: Author.



Fifth objective: **IMPROVE ENVIRONMENTAL SUSTAINABILITY**

<b>13. ACTION</b>	<b>Support for agriculture and stone wall restoration</b>
<b>Area of intervention</b>	Cinque Terre National Park
<b>Description</b>	<p>The agricultural activities and the system of terracing have been the distinctive feature of the Cinque Terre for centuries, to the extent that they have become a UNESCO heritage. Terracing is crucial for combating hydrogeological instability, but its close connection to agriculture makes the environmental balance very fragile. It is therefore essential to support both.</p> <p>Specifically, this action includes:</p> <ul style="list-style-type: none"> <li>- Incentives for the sale of local products in the shops, accommodations, and restaurants of the Cinque Terre;</li> <li>- Creation of a unique brand for the products of the park;</li> <li>- Support for training in the maintenance of dry-stone walls;</li> <li>- Economic incentives for those who decide to open a farm in the area;</li> <li>- Increase in planting rights for the heroic vineyards in the park area.</li> </ul>
<b>References/Good practices</b>	<p>The project STONEWALLSFORLIFE showcases the social and cultural value of dry-stone walls and supports their restoration through educational courses for unemployed individuals, migrants, and disadvantaged groups. This initiative facilitates their employment placement and social inclusion.</p> <p><a href="https://www.stonewalls4life.eu/?lang=it">https://www.stonewalls4life.eu/?lang=it</a></p>
<b>Time</b>	5 years
<b>Actors</b>	UNESCO, Region Liguria; Cinque Terre National Park, Municipalities, farms
<b>Budget</b>	1 million each year
<b>Monitoring indicator</b>	<p>n° of agreements with shops, and tourist facilities</p> <p>n° Training courses</p> <p>n° of new farm</p> <p>new law on planting rights</p>

Tab. 47: Thirteenth action and fifth objective. Source: Author.

Fifth objective: **IMPROVE ENVIRONMENTAL SUSTAINABILITY**

<b>14. ACTION</b>	<b>Reduction in consumption and management of resources</b>
<b>Area of intervention</b>	Cinque Terre National Park
<b>Description</b>	<p>This action is structured into three sub-projects:</p> <ol style="list-style-type: none"> <li>1. Incentives for accommodation facilities for resource efficiency (energy, water and waste). Accommodation facilities ought to actively embrace environmental consciousness. This not only contributes positively to the environment but also yields cost savings and enhances their reputation with customers.</li> <li>2. Creation of a renewable energy community inside the park for esample using the covers of the parking areas with the inclusion of a light structure and suitable for the context. Thanks to the energy community, the park can resort partly to clean energy.</li> </ol>
<b>References/Good practices</b>	<p>Styles, D., Schoenberger, H., &amp; Galvez-Martos, J. L. (2015). Water management in the European hospitality sector: Best practice, performance benchmarks and improvement potential. <i>Tourism Management</i>, 46, 187-202.</p> <p>Bruns-Smith, A., Choy, V., Chong, H., &amp; Verma, R. (2015). Environmental sustainability in the hospitality industry: Best practices, guest participation, and customer satisfaction.</p>
<b>Time</b>	3 years
<b>Actors</b>	Cinque terre National Plan, Monterosso, Riomaggiore, Vernazza, local stakeholders
<b>Budget</b>	<p>500.000 €</p> <p>For the creation of renewable energy communities it is possible to access to the fund dedicated by the National Recovery and Resilience Plan for municipalities with less than 5000 inhabitants.</p>
<b>Monitoring indicator</b>	<p>n° of accommodation facilities that reduce the use of resources</p> <p>n° of renewable energy community</p>

Tab. 48: Fourteenth action and fourth objective. Source: Author.

Fifth objective: **IMPROVE ENVIRONMENTAL SUSTAINABILITY**

<b>15. ACTION</b>	<b>Cinque Terre National Park Plastic Free</b>
<b>Area of intervention</b>	Cinque Terre National Park
<b>Description</b>	<p>Gradual but rapid abandonment of the use of plastic. The measure counters waste production and is a sensitive incentive for environmental conservation. Implementation of the rule of the 4 Rs - reduce, reuse, recycle, recover; prohibition of the use of single-use plastic first in public offices and schools, then in private businesses.</p> <p>With predefined time frames and predetermined categories (hotels, beach establishments, bars, etc.), we must achieve a plastic-free status within a short period. For example: "returnable" packaging in restaurant activities, mandatory use of deposit-bearing glasses; sale of bulk products; elimination of plastic bottles from vending machines.</p> <p>In the Cinque Terre, there are already municipalities that sell reusable bottles. These must become mandatory in all municipalities: we need more bottle dispensers, more water stations (at least one for every train station), and more public water fountains.</p> <p>An information campaign is needed to explain why these measures are being taken.</p>
<b>References/Good practices</b>	In Italy, there are over 100 municipalities that have banned the use and distribution of plastic plates, glasses, and cutlery. Depending on the case, this measure can even extend to prohibiting the sale of these items by shops and supermarkets, and may affect either the entire municipal territory or only specific city areas or certain public offices, services managed by the municipality such as school canteens, or events and manifestations.
<b>Time</b>	18 months
<b>Actors</b>	Monterosso, Riomaggiore, Vernazza
<b>Budget</b>	100.000 €
<b>Monitoring indicator</b>	n° bottle dispensers n° water stations

Tab. 49: Fifteenth action and fifth objective. Source: Author.

- **Connections with other programmes in force**

The Cinque Terre National Park initiated a certification process in 2014-2015, led by the EUROPARC Federation and Federparchi – Europarc Italy, to develop the Charter for Sustainable Tourism (CETS). The CETS aims to continually enhance tourism management in the protected area, benefiting the environment, local communities, businesses, and visitors. Through voluntary collaboration with public and private entities, the CETS outlines ten principles, promoting responsible tourism practices.

The objectives include working in partnership with stakeholders, developing a shared strategy, protecting the natural and cultural heritage, ensuring high-quality visitor experiences, and promoting understanding of the territory. The CETS also encourages sustainable tourism products, enhances knowledge of the protected area, minimizes negative impacts on local communities, boosts economic benefits, and monitors visitor flows.

Certified activities follow sustainability actions and improvement plans. In 2016, the Park received CETS recognition and began awarding labels to businesses. "CETS – Phase 2," launched in November 2017, focuses on certifying economic activities within the park, emphasizing collaboration with tourism operators. The phase aims to establish structured collaborations, certifying businesses committed to environmental and community responsibilities.

On November 30, 2021, the Park introduced a new component of CETS Phase II: a regulation dedicated to catering. This regulation connects environmental protection, promotion of local products, and landscape conservation. After certifying 130+ hospitality businesses, the Park expands its efforts to the catering sector, presenting the draft document during the CETS Forum. This marks a significant step in promoting sustainable practices in the Cinque Terre, involving over 70 sector businesses, mayors, and industry associations.

#### 4.2.5 Plan implementation and monitoring, Cinque Terre National Park STP

- **Implementation of the plan**

The approach to participation and consultation within the Plan exhibits a robust territorial dimension, aligning seamlessly with a comprehensive strategy. This strategy acknowledges the significance of differentiating and enhancing offerings at the territorial level as a key driver for the overall growth of the tourist system's competitiveness. Beyond its approval, the Plan will maintain its dynamic and participatory nature, actively fostering the engagement of partners, stakeholders, operators, and local communities in the ongoing implementation of initiatives.

- **Plan action and goals monitoring through the identification of specific indicators**

The last part of the plan for sustainable tourism in the Cinque Terre National Park concerns the evaluation of the actual implementation of the actions envisaged in the

Plan. The level of achievement of the macro-objectives is given by the sum of the results obtained by each action.

The proposed frequency of data collection is every six months, in order to promptly highlight any delays or shortcomings in the implementation of actions and consequently be able to intervene.

If the implementation of the actions encounters problems, the STP suggests to organise at least one meeting with the stakeholders to determine the corrective measures to be implemented. These corrective measures are part of the Monitoring Plan, which is updated and revised annually.

The table below (Tab. 50) shows all the indicators identified by the plan for monitoring the actions.

ACTION	Monitoring indicator	Degree of achievement of the macro-objective
1	National law to regulate short-term rentals approved in overtourism destinations	<b>Reducing tourist numbers</b>  Good, sufficient, insufficient
2	n° of agreements with cruise companies n° of agreements with tour operators	
3	Renewal of the commercial agreement with Trenitalia.	
4	n° of new tourist products	<b>Seasonal adjustment</b>  Good, sufficient, insufficient
5	n° of new target groups identified	
6	n° number of walkers before and after the implementation of the action on the less used paths of the park	
7	n° of discounts applied each year	
8	n° of number of sensors installed app with the alarm system	<b>Better security and accessibility</b>  Good, sufficient, insufficient
9	Civil protection plan of the UNESCO site	
10	Charter of Visitors' Rights and Duties	<b>Improve the relationship between residents and tourist</b>
11	n° of meetings n° of discounted cards	

	Tourism Pact update	Good, sufficient, insufficient
12	Permanent Committee for Tourism in the Cinque Terre	
13	n° of agreements with shops, and tourist facilities n° Training courses n° of new farm new law on planting rights	<b>Improve environmental sustainability</b>  Good, sufficient, insufficient
14	n° of accommodation facilities that reduce the use of resources n° of renewable energy community	
15	n° bottle dispensers n° water stations	

Tab. 50: Monitoring indicators. Source: author.

## CONCLUSION

The onset of the COVID-19 pandemic instigated an unparalleled downturn in global tourism, attributable to travel restrictions, lockdowns, and health apprehensions. Despite the formidable challenges, Europe's tourism sector remarkably rebounded to 90% of pre-pandemic levels in 2022, indicative of robust regional demand (UNWTO, 2023). This global recovery is underscored by the UNWTO World Tourism Barometer for Q2 2023, which not only signals a promising revival but also underscores the industry's resilience (UNWTO, 2023).

The pandemic-induced collapse of the tourism sector has necessitated destinations to reevaluate their economic models, emphasizing sustainability and innovation (Duro et al., 2021; Galvani et al., 2021). The dual nature of tourism, offering economic opportunities while risking landscape degradation and cultural loss, accentuates the imperative for responsible practices (Balsalobre-Lorente et al., 2020; Pigram, 2016). From an environmental point of view, tourism contributes to carbon emissions, and carries a potential radiative forcing share of up to 12.5% (Ghosh, 2022; Hall, 2016; Eijgelaar and Peeters, 2021). From an economic perspective, tourism can pose problems related to single economic sector and low earnings for local populations compared to the high profits of tour operators or foreign entrepreneurs. Additionally, the demand for tourist-related services and accommodations can result in increased property prices, contributing to gentrification. This process may lead to the displacement of local residents and a transformation in the community's character.

Recently, destinations experiencing the most negative impacts of tourism are identified as places struggling with overtourism. The phenomenon of overtourism, characterized by adverse impacts on local communities and environments, has prompted a comprehensive reassessment of the tourism industry (Christin, 2017). Cities such as Barcelona and Venice grapple with cultural conflicts and identity loss stemming from unmanaged tourist influx. Instances of "tourismphobia" have emerged as manifestations of tensions arising from perceived economic repercussions (Milano, 2018), reflecting host-tourist conflicts (Colomb and Novy, 2017; Pinke-Sziva et al., 2019; Smith et al., 2019).

In response to these challenges, sustainable tourism emerges as a pivotal solution to balance economic growth, cultural preservation, and environmental conservation (Hall, 2019; Sharpley, 2020). The UNWTO defines sustainable tourism as meeting the needs of both travellers and host regions while preserving opportunities for the future. A paradigm shift toward responsible tourism underscores the host community's role in sustainable and socially responsible development (Mihalic, 2016). Despite scholarly interest, the practical implementation of responsible tourism often devolves into a public relations tool (Wheeller, 1993; Chettiparamb and Kokkranikal, 2012).

The impediment of inadequate planning tools hampers sustainable tourism development, giving rise to issues like overcrowding and cultural erosion (Gill, 2004; Frent, 2016). Effective stakeholder coordination is crucial, as conflicting interests between the private and public sectors complicate sustainable development (Font and Ahjem, 1999; Altinay et al., 2007). The centrality of the host community in planning is vital for ensuring shared benefits and an improved quality of life (Simpson, 2001).

The concept of carrying capacity, representing the maximum sustainable visitor limit, is another key consideration in sustainable tourism management (Archer et al., 2012). Precision in determining carrying capacity necessitates qualitative and quantitative assessments, taking into account factors such as infrastructure and cultural preservation (Getz, 1983; O'Reilly, 1986; McCool and Lime, 2001). Quantifying carrying capacity proves challenging, with various proposed methodologies, including an ecosystemic approach, economic and theoretical models, and qualitative analysis (Cifuentes, 1992; Van Der Borg and Costa, 1988; UN Environment Programme). Striking a balance between quantitative and qualitative parameters, tailored to each destination, is essential for effective carrying capacity determination.

This thesis seeks to formulate a sustainable tourism plan at the destination/municipality level, assisting local authorities, park authorities, and UNESCO sites in managing tourism with due consideration for economic, environmental, and socio-cultural factors. The plan utilizes tourist carrying capacity (TCC) to assess sustainability, building upon Canestrelli and Costa's 1991 formula, expanded with new environmental constraints. Recent studies on Venice by Bertocchi et al. (2020) influenced coefficient adjustments. The fuzzy logic-based formula maximizes tourists (hotel, non-hotel, day) based on economic expenditure while accommodating uncertainties. The methodology sets minimum and maximum coefficients based on tourist types and associated constraints, acknowledging, for example, that hotel tourists produce more waste than day tourists. Destinations can tailor coefficients to local realities. Comparing TCC with actual tourists identifies overtourism risks or potential for further development. In specific, if the average number of tourists exceeds the TCC, the destination is considered saturated; if the two numbers are nearly equal, there is a balance between the components of sustainability; and finally, if the TCC is greater than the average daily number of tourists, the destination can still be developed. The research proposes combining TCC with a Social Satisfaction Analysis to address the social dimension often neglected in TCC formulations.

The Social Satisfaction Analysis involves two questionnaires (tourists and residents). Residents evaluate service changes (waste management, transportation, healthcare, etc.) and assess tourism's impact on well-being, environment, and local identity; tourists



assess crowding. MATLAB's Fuzzy Logic Designer app integrates TCC and Social Satisfaction Analysis for a comprehensive tourism sustainability assessment.

The final sustainability level reflects the initial situation. The Sustainable Tourism Plan aims to maximize sustainability through defined objectives and actions. The fuzzy logic designer correlates social satisfaction values and TCC, providing a tool to assess overall tourism sustainability and guide planning decisions (Canestrelli and Costa, 1991); (Bertocchi et al., 2020).

The proposed Plan for Sustainable Tourism is structured into four phases: the first addresses the national and global context of the tourism sector; the second assesses the current state of the destination; the third defines objectives and actions, and the fourth focuses on monitoring and implementation. Local action within a global context is emphasized for successful change. The Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis, followed by PEST factors (Political, Economic, Social, Technological), is employed by the plan to integrate local and global considerations.

In addition to the four main phases, the plan emphasizes a transversal phase involving the participation and engagement of local communities and stakeholders. This phase is crucial for building a shared plan and requires a participatory process to define common objectives and actions, ensuring continuous stakeholder involvement throughout the planning process.

The proposed plan serves as a guidebook for policymakers and urban planners aiming to manage tourism sustainably. It is a general and synthetic scheme designed to be easily applied and adapted to various destinations. The intention is to create a basic plan model that, when fully implemented, offers a valuable tool for achieving sustainable destinations. Local administrations have the flexibility to incorporate additional elements based on their specificities.

To validate the plan and provide practical insights, the methodology is applied to a real case study: the Sustainable Tourism Plan for the Cinque Terre National Park.

The Cinque Terre, a renowned tourist destination along the Italian coast, faces significant challenges due to the influx of tourists, reaching 3.5 million annually. Despite its UNESCO World Heritage status and the establishment of the Cinque Terre National Park Authority in 1995, the region struggles with environmental, economic, and cultural imbalances resulting from uncontrolled tourism. The park's unique landscape, shaped by locals over centuries, now faces threats from extreme weather, exploitation, and unsustainable tourism practices.

In 2020, a brief respite occurred due to the pandemic, but in 2023, tourism rebounded with 4 million visitors, exceeding pre-pandemic levels. The concentrated tourist flows, especially during April to October, pose a severe challenge, reaching peak levels in July and August. The study indicates an overtourism situation, with visitor numbers surpassing the accommodation capacity of the five villages that constitute the Cinque Terre.

The concept of Tourist Carrying Capacity (TCC) is introduced, indicating an optimal range between 3842 and 4071. However, the average daily tourist number is 8200, far exceeding the TCC. The imbalance is particularly acute during the high season, with daily averages reaching 12,050 tourists, 238% more than the TCC. The study underscores a critical period of seven months where the number of tourists significantly deviates from the TCC, creating sustainability concerns.

To assess tourism sustainability comprehensively, the study combines TCC calculations with social satisfaction analysis. The latter involves surveys of both residents and tourists, revealing an unsatisfactory perception of tourism development within the Cinque Terre. A MATLAB application using fuzzy logic integrates quantitative TCC data with qualitative social satisfaction scores, resulting in an overall tourism sustainability rating of approximately 0.6 on a scale of 0 to 4, indicating a need for significant improvements.

To address these challenges, the Sustainable Tourism Plan for the Cinque Terre National Park emerges, emphasizing community and stakeholder participation. Meetings with local administrators, businesses, and associations, along with questionnaires distributed to residents and visitors, provide crucial insights. The majority of respondents see tourism as an opportunity, but 62.4% note a decline in their quality of life over the past decade, coinciding with the surge in tourist arrivals.

Notably, 61.4% express a desire to relocate, with reasons including a lack of services, excessive tourism, rising living costs, and property prices. This sentiment is prevalent across age groups and origins, indicating a pervasive concern among residents. Urgent interventions are required to enhance tourism sustainability, reduce impacts on the local population, and address identified issues.

The Sustainable Tourism Plan outlines objectives such as reducing and managing tourist numbers, seasonal adjustment, improving security and accessibility, enhancing resident-tourist relations, and promoting environmental sustainability. The plan targets a daily visitor count of around 4000 throughout the year, emphasizing a balanced distribution and limiting the impact of large organized groups.

Fifteen specific actions, derived from extensive analysis and community engagement, form the basis for achieving these objectives. These actions include measures to control

visitor numbers, regulate seasonal influx, improve safety and accessibility, foster positive community interactions, and promote environmental conservation. By implementing these strategies, the plan aims to ensure economic returns for local businesses while preserving the region's unique natural and cultural heritage.

In conclusion, the post-pandemic recovery of the tourism industry presents an opportunity to address long-standing issues such as overtourism through sustainable and responsible tourism practices. Effective planning tools, stakeholder involvement, and a nuanced understanding of carrying capacity are essential to ensure tourism's positive impact on communities and the environment. The application to the case study shows how a reversal of the trend through proper planning and the involvement of local communities is not only possible but also desirable.

## THANKS

Firstly, I would like to express my gratitude to Professor Francesca Pirlone, who has followed my entire doctoral journey with interest and professionalism. I have known Professor Pirlone since my studies in engineering, and it is thanks to her that I became passionate about research and acquired the necessary tools for this activity.

I also thank Professor Patrizia Bagnerini, who patiently taught me how to use the MATLAB software to calculate the level of tourist sustainability.

For the calculation of tourist carrying capacity, I extend my thanks to Professor Nicola Camatti, an expert from Ca' Foscari University of Venice, whom I met during the Altereco European project. Thanks to this project, we discussed how to make tourism sustainable in various Mediterranean cities, starting precisely from the calculation of a maximum daily limit of tourists to avoid negative impacts on the territory and host communities.

I would also like to thank all the residents and local administrators who have contributed with their ideas and time to the definition of actions for the sustainable tourism plan in the Cinque Terre.

Finally, I express my gratitude to all the researchers and fellow doctoral students who have been close to me over the years, such as Ilenia Spadaro, Luca Moreschi, and Diego Armando Arellano Vazquez, and of course, my family, who has never stopped helping me and believing in me.

## REFERENCES

- Aas, C., Ladkin, A., & Fletcher, J. (2005). Stakeholder collaboration and heritage management. *Annals of tourism research*, 32(1), 28-48.
- Abbas, J., Mubeen, R., Iorember, P.T., Raza, S., & Mamirkulova, G. (2021). Exploring the impact of COVID-19 on tourism: Transformational potential and implications for a sustainable recovery of the travel and leisure industry. *Curr. Res. Behav. Sci.*, 2, 100033.
- Adams, F., & Casteleijn, D. (2014). New insights in collective participation: A South African perspective. *South African Journal of Occupational Therapy*, 44(1), 81-87.
- Akis, S., Peristianis, N., & Warner, J. (1996). Residents' attitudes to tourism development: the case of Cyprus. *Tourism management*, 17(7), 481-494.
- Altinay, L., Var, T., Hines, S., & Hussain, K. (2007). Barriers to sustainable tourism development in Jamaica. *Tourism Analysis*, 12(1-2), 1-13.
- Amado, M. P., Santos, C. V., Moura, E. B., & Silva, V. G. (2010). Public participation in sustainable urban planning. *International journal of human and social sciences*, 5(2), 102-108.
- Amerta, I. M. S., Sara, I. M., & Bagiada, K. (2018). Sustainable tourism development. *International research journal of management, IT and social sciences*, 5(2), 248-254.
- Andereck, K. L., & Mc Gehee, N. G. (2008). 14 The Attitudes of Community Residents Towards Tourism. *Tourism, recreation and sustainability*, 236.
- Andereck, K. L., & Nyaupane, G. P. (2011). Exploring the nature of tourism and quality of life perceptions among residents. *Journal of Travel research*, 50(3), 248-260.
- Andereck, K. L., Valentine, K. M., Knopf, R. C., & Vogt, C. A. (2005). Residents' perceptions of community tourism impacts. *Annals of tourism research*, 32(4), 1056-1076.
- Andereck, K. L., Vogt, C. A. (2000). The relationship between residents' attitudes toward tourism and tourism development options. *Journal of Travel research*, 39(1), 27-36.
- Andersen, I. M. V., Blichfeldt, B. S., & Liburd, J. J. (2018). Sustainability in coastal tourism development: an example from Denmark. *Current Issues in Tourism*, 21(12), 1329-1336.
- Andriotis, K. (2001). Tourism planning and development in Crete: Recent tourism policies and their efficacy. *Journal of Sustainable Tourism*, 9(4), 298-316.
- Andriotis, K., & Vaughan, R. D. (2003). Urban residents' attitudes toward tourism development: The case of Crete. *Journal of travel research*, 42(2), 172-185.
- Androniceanu, A. (2017). The three-dimensional approach of Total Quality Management, an essential strategic option for business excellence. *Amfiteatru Economic*, 19(44), 61-78.
- Angelevska-Najdeska, K., & Rakicevik, G. (2012). Planning of sustainable tourism development. *Procedia-Social and Behavioral Sciences*, 44, 210-220.
- Archer, B. (1995). Importance of tourism for the economy of Bermuda. *Annals of tourism research*, 22(4), 918-930.

- Archer, B., Cooper C., Ruhanen, L. (2012). The positive and negative impacts of tourism. *Global tourism*. Routledge, 79-102.
- Aref, F., Gill, S. S., & Aref, A. (2010). Assessing the level of community capacity building in tourism development in local communities. *Journal of sustainable development*, 3(1), 81.
- Arnegger, J., Woltering, M., & Job, H. (2010). Toward a product-based typology for nature-based tourism: a conceptual framework. *Journal of sustainable tourism*, 18(7), 915-928.
- Ashley, C., De Brine, P., Lehr, A., & Wilde, H. (2007). The role of the tourism sector in expanding economic opportunity. Cambridge, MA: John F. Kennedy School of Government, Harvard University.
- Asmelash, A. G., & Kumar, S. (2019). Assessing progress of tourism sustainability: Developing and validating sustainability indicators. *Tourism Management*, 71, 67-83.
- Babbie, E., & Buzzi, C. (2010). *Ricerca sociale*. Roma, Italy: Apogeo.
- Bahar, O., & Kozak, M. (2007). Advancing destination competitiveness research: Comparison between tourists and service providers. *Journal of Travel & Tourism Marketing*, 22(2), 61-71.
- Balaguer, J., & Cantavella-Jorda, M. (2002). Tourism as a long-run economic growth factor: the Spanish case. *Applied economics*, 34(7), 877-884.
- Balaguer, J., & Cantavella-Jordá, M. (2002). *Structural change in exports and economic growth: cointegration and causality analysis for Spain (1961-2000)*. Instituto Valenciano de Investigaciones Económicas.
- Balsalobre-Lorente, D., Driha, O. M., Leitão, N. C., & Murshed, M. (2021). The carbon dioxide neutralizing effect of energy innovation on international tourism in EU-5 countries under the prism of the EKC hypothesis. *Journal of Environmental Management*, 298.
- Balsalobre-Lorente, D., Driha, O. M., Shahbaz, M., & Sinha, A. (2020). The effects of tourism and globalization over environmental degradation in developed countries. *Environmental Science and Pollution Research*, 27, 7130-7144.
- Bandau, F. (2023). What explains the electoral crisis of social democracy? A systematic review of the literature. *Government and Opposition*, 58(1), 183-205.
- Battilani, P., Bernini, C. & Mariotti, A. (2018). Le Cinque Terre e la sfida di un turismo sostenibile. *Rivista online di Urban@it*, 2, 2-13.
- Battour, M., Salaheldeen, M., & Mady, K. (2022). Halal tourism: exploring innovative marketing opportunities for entrepreneurs. *Journal of Islamic Marketing*, 13(4), 887-897.
- Baum, T. (2015). Human resources in tourism: Still waiting for change?—A 2015 reprise. *Tourism Management*, 50, 204-212.
- Baum, T. (2018). Sustainable human resource management as a driver in tourism policy and planning: a serious sin of omission? *Journal of Sustainable Tourism*, 26(6), 873-889.
- Beesley, L. G., & Cooper, C. (2007). A framework for defining knowledge management practices within the tourism sector. In *CAUTHE (17th: 2007: Manly, Syd.)*(pp. 1428-1439). Sydney, NSW: University of Technology Sydney.
- Bei, G., & Celata, F. (2023). Challenges and effects of short-term rentals regulation: A counterfactual assessment of European cities. *Annals of Tourism Research*, 101.

- Belisle, F. J., & Hoy, D. R. (1980). The perceived impact of tourism by residents a case study in Santa Marta, Colombia. *Annals of tourism research*, 7(1), 83-101.
- Bergene, A.C., Boluk, K. & Buckley, E. (2015). Examining the opportunities and challenges of union organisation within the hospitality industry, in (Eds) Jordhus-Lier, D. and Underthun, A. A hospitable world? Organising work and workers in hotels and tourist resorts, London: Routledge: pp. 195-212.
- Berry, S., & Ladkin, A. (1997). Sustainable tourism: A regional perspective. *Tourism Management*, 18(7), 433-440.
- Berte, E., & Panagopoulos, T. (2014). Enhancing city resilience to climate change by means of ecosystem services improvement: A SWOT analysis for the city of Faro, Portugal. *International Journal of Urban Sustainable Development*, 6(2), 241-253.
- Bertini, V. (2019). Paesaggio Culturale e turismo. Il territorio delle Cinque Terre. In *ACTAS. XI Congreso Internacional AR&PA 2018. El papel del patrimonio en la construcción de la Europa de los Ciudadanos* (pp. 695-704). LAB/PAP Laboratorio de Paisaje Arquitectónico, Patrimonial y Cultural y Departamento de Teoría de la Arquitectura y Proyectos Arquitectónicos, Universidad de Valladolid, Junta de Castilla y León.
- Bertocchi, D., Camatti, N., Giove, S., & van der Borg, J. (2020). Venice and overtourism: Simulating sustainable development scenarios through a tourism carrying capacity model. *Sustainability*, 12(2), 512.
- Besculides, A., Lee, M. E., & McCormick, P. J. (2002). Residents' perceptions of the cultural benefits of tourism. *Annals of tourism research*, 29(2), 303-319.
- Biagi, B., Brandano, M. G., & Caudill, S. B. (2016). Tourism and house prices in Italy: a latent class approach. *Tourism Economics*, 22(5), 964-978.
- Biagi, B., Ladu, M. G., Meleddu, M., & Royuela, V. (2020). Tourism and the city: The impact on residents' quality of life. *International Journal of Tourism Research*, 22(2), 168-181.
- Bianchi, R. V. (2004). Tourism restructuring and the politics of sustainability: A critical view from the European periphery (The Canary Islands). *Journal of Sustainable Tourism*, 12(6), 495-529.
- Birendra, K.C.; Adity, D.; Tek, B.D. (2021). Tourism and the sustainable development goals: Stakeholders' perspectives from Nepal. *Tour. Manag. Perspect.*, 38, 100822.
- Blanchi, R., Bolgiani, P., Ceccarelli, M., & Virgilio, D. (2007). Uno scenario progettuale per la riqualificazione paesistico ambientale degli ecosistemi dell'insediamento rurale delle Cinque Terre. *Alberto MAGNAGHI (a cura di), Scenari strategici. Visioni identitarie per il progetto di territorio, Firenze, Alinea Editrice, 327.*
- Blanco-Romero, A., Blázquez-Salom, M., & Cànoves, G. (2018). Barcelona, housing rent bubble in a tourist city. Social responses and local policies. *Sustainability*, 10(6), 2043.
- Boavida-Portugal, I., Rocha, J., & Ferreira, C. C. (2016). Exploring the impacts of future tourism development on land use/cover changes. *Applied Geography*, 77, 82-91.
- Booth, A. (1990). The tourism boom in Indonesia. *Bulletin of Indonesian Economic Studies*, 26(3), 45-73.
- Bramwell, B. (2011). Governance, the state and sustainable tourism: A political economy approach. *Journal of sustainable tourism*, 19(4-5), 459-477.
- Bramwell, B., & Lane, B. (1993). Sustainable tourism: An evolving global approach. *Journal of sustainable tourism*, 1(1), 1-5.

- Brandt, U. S., & Svendsen, G. T. (2013). Is local participation always optimal for sustainable action? The costs of consensus-building in Local Agenda 21. *Journal of environmental management*, 129, 266-273.
- Briassoulis, H. (2002). Sustainable tourism and the question of the commons. *Annals of tourism research*, 29(4), 1065-1085.
- Brida, J. G., Pereyra, J. S., Risso, W. A., Devesa, M. J. S., & Aguirre, S. Z. (2008). The tourism-led growth hypothesis: empirical evidence from Colombia.
- Briguglio, L. (1996). *Sustainable tourism in islands and small states*.
- Brokaj, R. (2014). Local Governments role in the sustainable tourism development of a destination. *European scientific journal*, 10(31).
- Brown, K., Turner, R. K., Hameed, H., & Bateman, I. A. N. (1997). Environmental carrying capacity and tourism development in the Maldives and Nepal. *Environmental Conservation*, 24(4), 316-325.
- Bruns-Smith, A., Choy, V., Chong, H., & Verma, R. (2015). Environmental sustainability in the hospitality industry: Best practices, guest participation, and customer satisfaction.
- Brunt, P., & Courtney, P. (1999). Host perceptions of sociocultural impacts. *Annals of tourism Research*, 26(3), 493-515.
- Buckley, R. (1999). An ecological perspective on carrying capacity. *Annals of Tourism Research*, 26(3), 705-708.
- Buckley, R. (2012). Sustainable tourism: Research and reality. *Annals of tourism research*, 39(2), 528-546.
- Bujosa, A., & Rosselló, J. (2013). Climate change and summer mass tourism: the case of Spanish domestic tourism. *Climatic change*, 117, 363-375.
- Butler, R. W. (1999). Sustainable tourism: A state-of the-art review. *Tourism Geographies*, 1, 7-25.
- Butler, R. W. (1999). Tourism-an evolutionary perspective. *Department of geography publication series-university of waterloo*, 52, 33-62.
- Butler, R. W. (2003). Problems and issues of integrating tourism development. In *Contemporary issues in tourism development* (pp. 75-90). Routledge.
- Butler, R. W. (2018). Challenges and opportunities. *Worldwide Hospitality and Tourism Themes*, 10(6), 635-461.
- Camatti, N., Bertocchi, D., Carić, H., & van der Borg, J. (2020). A digital response system to mitigate overtourism. The case of Dubrovnik. *Journal of Travel & Tourism Marketing*, 37(8-9), 887-901.
- Camilleri, M. A., & Camilleri, M. A. (2018). *The tourism industry: An overview* (pp. 3-27). Springer International Publishing.
- Candia, S., & Pirlone, F. (2021). Tourism environmental impacts assessment to guide public authorities towards sustainable choices for the post-COVID era. *Sustainability*, 14(1), 18.
- Candia, S., Pirlone, F., & Spadaro, I. (2018). Sustainable development and the plan for tourism in Mediterranean coastal areas: Case study of the region of Liguria, Italy. *WIT Transactions on Ecology and the Environment*, 217, 523-534.



- Canestrelli, E., & Costa, P. (1991). Tourist carrying capacity: A fuzzy approach. *Annals of tourism research, 18*(2), 295-311.
- Capo, J., Font, A. R., & Nadal, J. R. (2007). Dutch disease in tourism economies: Evidence from the Balearics and the Canary Islands. *Journal of sustainable Tourism, 15*(6), 615-627.
- Caponi, V. (2022). The economic and environmental effects of seasonality of tourism: A look at solid waste. *Ecological economics, 192*, 107262.
- Çelik, S. (2019). Does tourism change tourist attitudes (prejudice and stereotype) towards local people? *Journal of Tourism and Services, 10*(18), 35-46.
- Cevasco, A. (2007). I fenomeni di instabilità nell'evoluzione della costa alta delle Cinque Terre (Liguria Orientale). *Studi costieri, 13*, 93-109.
- Chaitanya, A. K., & Swain, S. K. (2023). Economic leakages in tourism: A comprehensive review of theoretical and empirical perspectives. *Tourism Economics*.
- Chen, C. M., Chen, S. H., & Lee, H. T. (2010). Assessing destination image through combining tourist cognitive perceptions with destination resources. *International Journal of Hospitality & Tourism Administration, 11*(1), 59-75.
- Chen, Z., Dong, J., & Ren, R. (2017). Urban underground logistics system in China: opportunities or challenges? *Underground Space, 2*(3), 195-208.
- Cheng, T. M., Wu, H. C., Wang, J. T. M., & Wu, M. R. (2019). Community Participation as a mediating factor on residents' attitudes towards sustainable tourism development and their personal environmentally responsible behaviour. *Current Issues in Tourism, 22*(14), 1764-1782.
- Chess, C., & Purcell, K. (1999). Public participation and the environment: Do we know what works? *Environ. Sci. Technol., 33*(16), 2685-2692.
- Chettiparamb, A., & Kokkranikal, J. (2012). Responsible tourism and sustainability: the case of Kumarakom in Kerala, India. *Journal of Policy Research in Tourism, Leisure and Events, 4*(3), 302-326.
- Chirenje, L. I., Chitotombe, J., Gukurume, S., Chazovachii, B., & Chitongo, L. (2013). The impact of tourism leakages on local economies: a case study of Nyanga District, Zimbabwe. *Journal of Human Ecology, 42*(1), 9-16.
- Choy, R., & Edelman, A. (2005). Parallel MATLAB: Doing it right. *Proceedings of the IEEE, 93*(2), 331-341.
- Christie, I. T., & Sharma, A. (2008). Research note: Millennium Development Goals—What is tourism's place? *Tourism Economics, 14*(2), 427-430.
- Christin, Rodolphe (2017). Manuel de l'antitourisme, Les éditions écosociété, Bordeaux.
- Churugsa, W., McIntosh, A. J., & Simmons, D. (2007). Sustainable tourism planning and development: Understanding the capacity of local government. *Leisure/Loisir, 31*(2), 453-473.
- Cifuentes, M. (1992). *Determinación de capacidad de carga turística en áreas protegidas* (No. 194). Bib. Orton IICA/CATIE.
- Cinque Terre National Park (2022). Performance Plan. Ministry of the Environment and Protection of Land and Sea.

- Cocola-Gant, A. (2018). 17. Tourism gentrification. *L. Lees, & M. Philips, M.(Eds.), Handbook of gentrification studies*, 281-293.
- Cole, D. N. (2004). Carrying capacity and visitor management: facts, values and the role of science. *Protecting our diverse heritage: the role of parks, protected areas, and cultural sites*, 43-46.
- Coles, T., & Church, A. (2006). Tourism, politics and the forgotten entanglements of power. In *Tourism, power and space* (pp. 15-56). Routledge.
- Cooper, C., Ruhanen, L. and Craig-Smith, S. (2004) Developing a KnowledgeManagement Approach to Tourism Research. Proceedings of the Tourism State of the Art II Conference, University of Strathclyde, Glasgow, Scotland
- Copeland, B. R. (1991). Tourism, welfare and de-industrialization in a small open economy. *Economica*, 515-529.
- Corbin, A. (Ed.). (1996). *L'invenzione del tempo libero: 1850-1960*. Ed. Laterza.
- Costa P., J. Van Der Borg (1988), Un modello lineare per la programmazione del turismo. Sulla capacità massima di accoglienza turistica del centro Storico di Venezia in *COSES informazioni*, vol. 32/33
- Costa, E., Di Giulio, A., Plesi, G., & Villa, G. (1992). Caratteri biostratigrafici e petrografici del Macigno lungo la trasversale Cinque Terre-Val Gordana-M. Sillara (Appennino settentrionale): implicazioni sull'evoluzione tettono-sedimentaria. *Studi Geol. Camerti, CROP 01-1A*, 229-248.
- Cox, C., & Wray, M. (2011). Best practice marketing for regional tourism destinations. *Journal of travel & tourism marketing*, 28(5), 524-540.
- Cracolici, M. F., Nijkamp, P., & Rietveld, P. (2008). Assessment of tourism competitiveness by analysing destination efficiency. *Tourism economics*, 14(2), 325-342.
- Croce, V. With growth comes accountability: Could a leisure activity turn into a driver for sustainable growth? *J. Tour. Futures* 2018, 4, 218-232.
- Croes, R., & Vanegas Sr, M. (2008). Cointegration and causality between tourism and poverty reduction. *Journal of travel research*, 47(1), 94-103.
- Crossley, É (2020). Ecological grief generates desire for environmental healing in tourism after COVID-19. *Tour. Geogr.*, 22, 536-546.
- Cucculelli, M., & Goffi, G. (2016). Does sustainability enhance tourism destination competitiveness? Evidence from Italian Destinations of Excellence. *Journal of Cleaner Production*, 111, 370-382.
- Cukier, J. (2002). Tourism employment issues in developing countries: examples from Indonesia. *Tourism and development: Concepts and issues*, 165-201.
- D'Eramo, M. (2019). *Il selfie del mondo: indagine sull'età del turismo*. Feltrinelli Editore.
- Daldeniz, B., & Hampton, M. P. (2013). Dive tourism and local communities: Active participation or subject to impacts? Case studies from Malaysia. *International journal of tourism research*, 15(5), 507-520.
- David, F. R. (2011). *Strategic management concepts and cases*. Pearson.
- De Camillis, C., Raggi, A., & Petti, L. (2010). Tourism LCA: state-of-the-art and perspectives. *The International Journal of Life Cycle Assessment*, 15, 148-155.

- De Lucia, C., Paziienza, P., Balena, P., & Caporale, D. (2020). Exploring local knowledge and socio-economic factors for touristic attractiveness and sustainability. *International Journal of Tourism Research*, 22(1), 81-99.
- Deery, M., Jago, L., & Fredline, L. (2012). Rethinking social impacts of tourism research: A new research agenda. *Tourism management*, 33(1), 64-73.
- Del Vecchio, P., & Passiante, G. (2017). Is tourism a driver for smart specialization? Evidence from Apulia, an Italian region with a tourism vocation. *Journal of destination marketing & management*, 6(3), 163-165.
- Diedrich, A., & García-Buades, E. (2009). Local perceptions of tourism as indicators of destination decline. *Tourism management*, 30(4), 512-521.
- Dieke, P. U. (2003). Tourism in Africa's economic development: policy implications. *Management decision*, 41(3), 287-295.
- Dodds, R. (2007). Sustainable tourism and policy implementation: Lessons from the case of Calvia, Spain. *Current Issues in Tourism*, 10(4), 296-322.
- Dodds, R., & Butler, R. (2009). Barriers to implementing sustainable tourism policy in mass tourism destinations.
- Dodds, R., & Butler, R. (2019). The phenomena of overtourism: A review. *International Journal of Tourism Cities*, 5(4), 519-528.
- Dola, K., & Mijan, D. (2006). Public participation in planning for sustainable development: operational questions and issues. *International Journal on Sustainable Tropical Design Research & Practice*, 1(1), 1-8.
- Donders, M., Hartmann, T., & Kokx, A. (2014). E-participation in urban planning: Getting and keeping citizens involved. *International Journal of E-Planning Research (IJEPR)*, 3(2), 54-69.
- Doxey, G. V. (1975). A Causation Theory of Visitor Resident Irritants: Methodology and Research Inferences, Paper Presented at the Travel and Tourism Research Association Sixth Annual Conference Proceedings, San Diego.
- Dredge, D. (2019). A policy research agenda for tourism and development. *A research agenda for tourism and development*, 35-52.
- Dredge, D., Jenkins, J., & Whitford, M. (2016). Tourism planning and policy: Historical development and contemporary challenges. In *Stories of practice: tourism policy and planning* (pp. 13-35). Routledge.
- Durbarry, R. (2004). Tourism and economic growth: the case of Mauritius. *Tourism Economics*, 10(4), 389-401.
- Duro, J. A., Perez-Laborda, A., Turrion-Prats, J., & Fernández-Fernández, M. (2021). Covid-19 and tourism vulnerability. *Tour. Manag. Perspect.*, 38, 100819.
- Dyer, P., Gursoy, D., Sharma, B., & Carter, J. (2007). Structural modeling of resident perceptions of tourism and associated development on the Sunshine Coast, Australia. *Tourism management*, 28(2), 409-422.
- Dyson, R. G. (2004). Strategic development and SWOT analysis at the University of Warwick. *European journal of operational research*, 152(3), 631-640.
- Eadington, W. R., & Redman, M. (1991). Economics and tourism. *Annals of Tourism research*, 18(1), 41-56.

- Eagles, P. F., McCool, S. F., & Haynes, C. D. (2002). *Sustainable tourism in protected areas: Guidelines for planning and management* (No. 8). IUCN.
- Edgell Sr, D. L. (2019). *Managing sustainable tourism: A legacy for the future*. Routledge.
- Eijelaar, E.; Peeters, P. (2021). *The Global Footprint of Tourism*; Online library, 454-465.
- European Parliament (2018). TRAN Committee, "Overtourism: impact and possible policy responses", Policy Department for Structural and Cohesion Policies
- Fagence, M. (2014). *Citizen participation in planning* (Vol. 19). Elsevier.
- Fallon, F. (2001). Conflict, power and tourism on Lombok. *Current Issues in Tourism*, 4(6), 481-502.
- Farrell, B. H., & Twining-Ward, L. (2004). Reconceptualizing tourism. *Annals of tourism research*, 31(2), 274-295.
- Faulkner, H. W., & Faulkner, B. (2003). *Progressing tourism research* (Vol. 9). Channel View Publications.
- Feliziani, V., & Miarelli, M. (2012). How Many Visitors Should There Be in the City: The Case of Rome. *Rev. Eur. Stud.*, 4, 179.
- Ferguson, L. (2011). Promoting gender equality and empowering women? Tourism and the third Millennium Development Goal. *Current Issues in Tourism*, 14(3), 235-249.
- Ferrata, C. (2013). *L'esperienza del paesaggio: vivere, comprendere e trasformare i luoghi*. Carocci.
- Firoiu, D., & Croitoru, A. G. (2013). Tourism and tourism infrastructure from the perspective of technological changes. *Romanian Economic and Business Review*, 8(2), 93-103.
- Floc'hlay, B., & Plottu, E. (1998). Democratic evaluation: From empowerment evaluation to public decision-making. *Evaluation*, 4(3), 261-277.
- Fodness, D. (2017). The problematic nature of sustainable tourism: some implications for planners and managers. *Current Issues in Tourism*, 20(16), 1671-1683.
- Folinas, S.; Metaxas, T. (2020). Tourism: The Great Patient of Coronavirus COVID-2019. *International Journal of Advanced Research*, 4, 365-375.
- Font, X., & Ahjem, T. E. (1999). Searching for a balance in tourism development strategies. *International journal of contemporary hospitality management*, 11(2/3), 73-77.
- Font, X., & McCabe, S. (2017). Sustainability and marketing in tourism: Its contexts, paradoxes, approaches, challenges and potential. *Journal of sustainable tourism*, 25(7), 869-883.
- Formica, S., & Uysal, M. (1996). The revitalization of Italy as a tourist destination. *Tourism management*, 17(5), 323-331.
- Frechtling, D. C. (2013). The Economic impact of tourism: Overview and examples of macroeconomic analysis. *UNWTO Statistics and TSA Issues Paper Series*.
- Frent, C. (2016). An overview on the negative impacts of tourism. *Revista de turism-studii si cercetari in turism*, (22).
- Furqan, A., Som, A. P. M., & Hussin, R. (2010). Promoting green tourism for future sustainability. *Theoretical and empirical researches in urban management*, 5(8 (17), 64-74.

- Fyall, A., & Garrod, B. (1998). Heritage tourism: at what price?. *Managing Leisure*, 3(4), 213-228.
- Galvani, A., Lew, A. A., & Perez, M. S. (2021). COVID-19 is expanding global consciousness and the sustainability of travel and tourism. In *Global Tourism and COVID-19* (pp. 113-122). Routledge.
- Galvani, A., Perez, M. S., & Alan, L. E. W. (2020). New visions for sustainability during a pandemic towards sustainable wellbeing in a changing planet. *European Journal of Geography*, 11(3).
- García, F. A., Vázquez, A. B., & Macías, R. C. (2015). Resident's attitudes towards the impacts of tourism. *Tourism Management Perspectives*, 13, 33-40.
- Gatti, F. M., & Fornelli, F. (2006). Istituzioni e sviluppo sostenibile: l'Ente Parco Cinque Terre. In *Nuove frontiere del turismo. Post-modernismo, psicologia ambientale e nuove tecnologie* (pp. 102-119). Hoepli.
- Geekiyana, D., Fernando, T., & Keraminiyage, K. (2021). Mapping participatory methods in the urban development process: A systematic review and case-based evidence analysis. *Sustainability*, 13(16), 8992.
- Gertner, R. K. (2019). The impact of cultural appropriation on destination image, tourism, and hospitality. *Thunderbird International Business Review*, 61(6), 873-877.
- Getz, D. (1983). Capacity to absorb tourism: Concepts and implications for strategic planning. *Annals of Tourism Research*, 10(2), 239-263.
- Ghali, M. A. (1976). Tourism and economic growth: an empirical study. *Economic Development and Cultural Change*, 24(3), 527-538.
- Ghosh, S. (2022). Effects of tourism on carbon dioxide emissions, a panel causality analysis with new data sets. *Environment, Development and Sustainability*, 24(3), 3884-3906.
- Gianelle, C., & Kleibrink, A. (2015). Monitoring mechanisms for smart specialisation strategies. *S3 Policy Brief Series (Technical Report)*.
- Giannoni, S., & Maupertuis, M. A. (2007). Environmental quality and optimal investment in tourism infrastructures: a small island perspective. *Tourism Economics*, 13(4), 499-513.
- Gill, A. (2004). Tourism communities and growth management. *A companion to tourism*, 569-583.
- Glaesser, D., Kester, J., Paulose, H., Alizadeh, A., & Valentin, B. (2017). Global travel patterns: an overview. *Journal of Travel Medicine*, 24(4), tax007.
- Glicken, J. (2000). Getting stakeholder participation 'right': a discussion of participatory processes and possible pitfalls. *Environmental Science & Policy*, 3(6), 305-310.
- Gold, A. E. (2019). Community consequences of Airbnb. *Wash. L. Rev.*, 94, 1577.
- Gomezelj, D. O., & Mihalič, T. (2008). Destination competitiveness—Applying different models, the case of Slovenia. *Tourism Management*, 29(2), 294-307.
- Goodwin, H. (2011). *Taking responsibility for tourism* (pp. 1-256). Woodeaton: Goodfellow Publishers Limited.
- Goodwin, H. (2017). The challenge of overtourism. *Responsible tourism partnership*, 4, 1-19.
- Görg, H. (2000). Multinational companies and indirect employment: Measurement and evidence. *Applied Economics*, 32(14).

- Gössling, S. (2013). National emissions from tourism: An overlooked policy challenge? *Energy Policy*, *59*, 433-442.
- Gössling, S., & Peeters, P. (2007). 'It does not harm the environment!' An analysis of industry discourses on tourism, air travel and the environment. *Journal of sustainable tourism*, *15*(4), 402-417.
- Gössling, S., Peeters, P., Ceron, J. P., Dubois, G., Patterson, T., & Richardson, R. B. (2005). The eco-efficiency of tourism. *Ecological economics*, *54*(4), 417-434.
- Gössling, S.; Hall, C.M.; Ekström, F.; Engeset, A.B.; Aall, C. (2012). Transition management: A tool for implementing sustainable tourism scenarios? *Sustain. Tour.*, *20*, 899–916.
- Graefe, A. R., Vaske, J. J., & Kuss, F. R. (1984). Social carrying capacity: An integration and synthesis of twenty years of research. *Leisure Sciences*, *6*(4), 395-431.
- Grube, N. (2023). Seeking pathways for sustainable urban tourism: a critical deconstruction of Berlin's approach for city-compatible tourism. *European Planning Studies*, *31*(8), 1673-1692.
- Guizzardi, A., & Mazzocchi, M. (2010). Tourism demand for Italy and the business cycle. *Tourism Management*, *31*(3), 367-377.
- Guo, Y., Jiang, J., & Li, S. (2019). A sustainable tourism policy research review. *Sustainability*, *11*(11), 3187.
- Gursoy, D., Jurowski, C., & Uysal, M. (2002). Resident attitudes: A structural modeling approach. *Annals of tourism research*, *29*(1), 79-105.
- Haddock-Fraser, J., & Hampton, M. P. (2012). Multistakeholder values on the sustainability of dive tourism: case studies of Sipadan and Perhentian Islands, Malaysia. *Tourism Analysis*, *17*(1), 27-41.
- Hall, C. M. (2008). *Tourism planning: Policies, processes, and relationships*. Pearson education.
- Hall, C. M. (2010). Crisis events in tourism: Subjects of crisis in tourism. *Current issues in Tourism*, *13*(5), 401-417.
- Hall, C. M. (2013). Framing behavioural approaches to understanding and governing sustainable tourism consumption: Beyond neoliberalism, "nudging" and "green growth"? *Journal of sustainable tourism*, *21*(7), 1091-1109.
- Hall, C. M. (2013). Policy learning and policy failure in sustainable tourism governance: From first-and second-order to third-order change? In *Tourism Governance* (pp. 239-261). Routledge.
- Hall, C. M. (2016). Heritage, heritage tourism and climate change. *Journal of Heritage Tourism*, *11*(1), 1-9.
- Hall, C. M. (2021). Constructing sustainable tourism development: The 2030 agenda and the managerial ecology of sustainable tourism. In *Activating Critical Thinking to Advance the Sustainable Development Goals in Tourism Systems* (pp. 198-214). Routledge.
- Hall, C. M., & Page, S. J. (2009). Progress in tourism management: From the geography of tourism to geographies of tourism—A review. *Tourism Management*, *30*(1), 3-16.
- Hall, C. M., & Rusher, K. (2012). Politics, public policy and the destination. In *Festival and events management* (pp. 217-231). Routledge.
- Hall, D., & Brown, F. (2008). The tourism industry's welfare responsibilities: An adequate response? *Tourism Recreation Research*, *33*(2), 213-218.

- Hall, P. (1987). Urban development and the future of tourism. *Tourism Management*, 8(2), 129-130.
- Hampton, M. P., Jeyacheya, J., & Long, P. H. (2018). Can tourism promote inclusive growth? Supply chains, ownership and employment in Ha Long Bay, Vietnam. *The Journal of Development Studies*, 54(2), 359-376.
- Hanberger, A. (2011). The real functions of evaluation and response systems. *Evaluation*, 17(4),
- Haralambopoulos, N., & Pizam, A. (1996). Perceived impacts of tourism: The case of Samos. *Annals of tourism Research*, 23(3), 503-526.
- Harcombe, D. (1999). The economic impacts of tourism.
- Hassan, G. F., El Hefnawi, A., & El Refaie, M. (2011). Efficiency of participation in planning. *Alexandria Engineering Journal*, 50(2), 203-212.
- Hatipoglu, B., Alvarez, M. D., & Ertuna, B. (2016). Barriers to stakeholder involvement in the planning of sustainable tourism: The case of the Thrace region in Turkey. *Journal of cleaner production*, 111, 306-317.
- Henderson, J. C. (2007). *Tourism crises: causes, consequences and management*. Routledge.
- Hendrick, R. (2003). Strategic planning environment, process, and performance in public agencies: A comparative study of departments in Milwaukee. *Journal of public administration research and theory*, 13(4), 491-519.
- Henriques, M. H., & Brilha, J. (2017). UNESCO Global Geoparks: A strategy towards global understanding and sustainability. *Episodes Journal of International Geoscience*, 40(4), 349-355.
- Hernández Martín, R. (2004). Impact of tourism consumption on GDP. The role of imports. *The Role of Imports (February 2004)*.
- Herrera-Cano, C., & Herrera-Cano, A. (2016). Maldivian disaster risk management and climate change action in tourism sector: Lessons for the sustainable development agenda. In *Climate Change and the 2030 Corporate Agenda for Sustainable Development* (pp. 113-131). Emerald Group Publishing Limited.
- Higgins-Desbiolles, F. (2010). The elusiveness of sustainability in tourism: The culture-ideology of consumerism and its implications. *Tourism and Hospitality Research*, 10(2), 116-129.
- Higgins-Desbiolles, F., Carnicelli, S., Krolkowski, C., Wijesinghe, G., & Boluk, K. (2019). Degrowing tourism: Rethinking tourism. *Journal of Sustainable Tourism*.
- Hill, T.; Westbrook, R. (1997). SWOT analysis: it's time for a product recall. *Long Range Plan*, 30, 46-52.
- Hipsher, S., (2017). Tourism: Job creation, entrepreneurship, and quality of life. *Poverty Reduction, the Private Sector, and Tourism in Mainland Southeast Asia*, 231-251.
- Holden, A., Sonne, J., & Novelli, M. (2011). Tourism and poverty reduction: An interpretation by the poor of Elmina, Ghana. *Tourism planning & development*, 8(3), 317-334.
- Holloway, J.C, & Taylor, N. (2006). *The Business of Tourism*, London: FT/Prentice Hall; 7th edition.
- Holzner, M. (2011). Tourism and economic development: The beach disease?. *Tourism Management*, 32(4), 922-933.

- Hospers, G. J. (2019). Overtourism in European cities: From challenges to coping strategies. In *CESifo Forum* (Vol. 20, No. 03, pp. 20-24). München: ifo Institut–Leibniz-Institut für Wirtschaftsforschung an der Universität München.
- Hospers, G. J. (2019). Overtourism in European cities: From challenges to coping strategies. In *CESifo Forum* (Vol. 20, No. 03, pp. 20-24). München: ifo Institut–Leibniz-Institut für Wirtschaftsforschung an der Universität München.
- Hovinen, G. R. (2002). Revisiting the destination lifecycle model. *Annals of tourism research*, 29(1), 209-230.
- Hummel, J., & van der Duim, R. (2012). Tourism and development at work: 15 years of tourism and poverty reduction within the SNV Netherlands Development Organisation. *Journal of Sustainable Tourism*, 20(3), 319-338.
- Hunter, C. (2002). Sustainable tourism and the touristic ecological footprint. *Environment, development and sustainability*, 4, 7-20.
- Huseynli, N. (2022). Econometric analysis of the relationship between tourism revenues, inflation and economic growth: The case of morocco and South Africa. *African Journal of Hospitality, Tourism and Leisure*, 11(1), 135-146.
- Huybers, T., & Bennett, J. (2003). Environmental management and the competitiveness of nature-based tourism destinations. *Environmental and Resource Economics*, 24, 213-233.
- Ibello, J., & Mancini, V. (2023). The Impact of Tourism in Italy: The restart Between Culture, Sustainability and Major Events. *Rome Buisness Schol Journal*
- Imon, S. (2017). Cultural heritage management under tourism pressure. *Worldwide Hospitality and Tourism Themes*, 9 (3). 335–348.
- Inskeep, E. (1991). *Tourism planning: An integrated and sustainable development approach*. John Wiley & Sons.
- Jacobs, M. (1995). Sustainable development—from broad rhetoric to local reality. In *Conference Proceedings from Agenda* (Vol. 21).
- Jafari, J. (1986). On domestic tourism. *Annals of Tourism Research*, 13(3), 491-496.
- Jamal, T., Camargo, B. A., & Wilson, E. (2013). Critical omissions and new directions for sustainable tourism: A situated macro–micro approach. *Sustainability*, 5(11), 4594-4613.
- Jenkins, O. H. (1999). Understanding and measuring tourist destination images. *International journal of tourism research*, 1(1), 1-15.
- Johnson, J. D., Snepenger, D. J., & Akis, S. (1994). Residents' perceptions of tourism development. *Annals of tourism research*, 21(3), 629-642.
- Jones, A.B. (2001). *Knowledge Capitalism – Business, Work and Learning in the New Economy*. Oxford: Oxford University Press.
- Jones, C., & Munday, M. (2007). Exploring the environmental consequences of tourism: A satellite account approach. *Journal of Travel Research*, 46(2), 164-172.



- Jones, P. (2023). Towards a Green and Digital Transition for European Tourism. *Athens Journal of Tourism*.
- Jordan, E. J., Vogt, C. A., Kruger, L. E., & Grewe, N. (2013). The interplay of governance, power and citizen participation in community tourism planning. *Journal of Policy Research in Tourism, Leisure and Events*, 5(3), 270-288.
- Jurado, E. N., Damian, I. M., & Fernandez-Morales, A. (2013). Carrying capacity model applied in coastal destinations. *Annals of Tourism Research*, 43, 1-19.
- Kachniewska, M. A. (2015). Tourism development as a determinant of quality of life in rural areas. *Worldwide Hospitality and Tourism Themes*, 7(5), 500-515.
- Kadir, N., & Jusoff, K. (2010). The cointegration and causality tests for tourism and trade in Malaysia. *International Journal of Economics and Finance*, 2(1), 138-143.
- Kajanus, M., Kangas, J., & Kurttila, M. (2004). The use of value focused thinking and the A'WOT hybrid method in tourism management. *Tourism management*, 25(4), 499-506.
- Katircioglu, S. (2009). Testing the tourism-led growth hypothesis: The case of Malta. *Acta Oeconomica*, 59(3), 331-343.
- Kay Smith, M., Egedy, T., Csizmady, A., Jancsik, A., Gergély, O., & Michalkó, G. (2018). Non-planning and tourism consumption in Budapest's inner city. *Tourism Geographies*, 20(3), 524-548.
- Khalid, U., Okafor, L. E., & Shafiullah, M. (2020). The effects of economic and financial crises on international tourist flows: A cross-country analysis. *Journal of Travel Research*, 59(2), 315-334.
- Khan, H., Phang, S. Y., & Toh, R. S. (1995). The multiplier effect: Singapore's hospitality industry. *Cornell Hotel and Restaurant Administration Quarterly*, 36(1), 64-69.
- Kim, H., & Marcouiller, D. W. (2015). Considering disaster vulnerability and resiliency: The case of hurricane effects on tourism-based economies. *The Annals of Regional Science*, 54, 945-971.
- Kleibrink, A., Gianelle, C., & Doussineau, M. (2016). Monitoring innovation and territorial development in Europe: emergent strategic management. *European Planning Studies*, 24(8), 1438-1458.
- Koens, K., Postma, A., & Papp, B. (2018). Is overtourism overused? Understanding the impact of tourism in a city context. *Sustainability*, 10(12), 4384.
- Koide, R., & Akenji, L. (2017). Assessment of policy integration of sustainable consumption and production into national policies. *Resources*, 6(4), 48.
- Korca, P. (1996). Resident attitudes toward tourism impacts. *Annals of tourism research*, 23(3), 695-697.
- Kumar, J., Hussain, K., & Kannan, S. (2015). Positive vs negative economic impacts of tourism development: A review of economic impact studies. In *21st Asia Pacific Tourism Association Annual Conference* (pp. 14-17).
- Kusumaningrum, D.A.; Wachyuni, S.S. (2020). The shifting trends in travelling after the COVID 19 pandemic. *Int. J. Tour. Hosp. Rev.*, 7, 31-40.
- Kuvan, Y., & Akan, P. (2005). Residents' attitudes toward general and forest-related impacts of tourism: the case of Belek, Antalya. *Tourism management*, 26(5), 691-706.

- La Rocca, R. A. (2005). Mass Tourism and Urban System: some suggestions to manage the impacts on the city. *E-Review of Tourism Research (eRTR)*, 3(1), 8-17.
- La Rocca, R. A. (2013). Tourism and city. Reflections about tourist dimension of smart city. *TeMA-Journal of Land Use, Mobility and Environment*, 6(2), 201-214.
- La Rocca, R. A. (2014). The role of tourism in planning the smart city. *TeMA-Journal of Land Use, Mobility and Environment*, 7(3), 269-284.
- Ladkin, A., & Bertramini, A. M. (2002). Collaborative tourism planning: A case study of Cusco, Peru. *Current issues in tourism*, 5(2), 71-93.
- Lampreu, S. (2023). Aree rurali e turismo: politiche, strumenti e strategie di sviluppo territoriale. *Aree rurali e turismo*, 1-150.
- Landorf, C. (2009). Managing for sustainable tourism: a review of six cultural World Heritage Sites. *Journal of Sustainable tourism*, 17(1), 53-70.
- Lanza, A., & Pigliaru, F. (2000). Why are tourism countries small and fast-growing?. In *Tourism and sustainable economic development* (pp. 57-69). Boston, MA: Springer US.
- Lapeyre, R. (2011). Governance structures and the distribution of tourism income in Namibian communal lands: a new institutional framework. *Tijdschrift voor economische en sociale geografie*, 102(3), 302-315.
- Lapointe, D. (2020). Reconnecting tourism after COVID-19: The paradox of alterity in tourism areas. *Tourism Geographies*, 22(3), 633-638.
- LAVY, S. (2021). L'impatto sui centri urbani della piattaforma di home-sharing Airbnb Il caso studio della città di Venezia.
- Learned, E.P.; Christensen, C.R.; Andrews, K.E.; Guth, W.D (1982). *Business Policy: Text and Cases*, 5th ed.; Richard, D., Ed.; Irwin: Homewood, IL, US.
- Lee, D., Hampton, M., & Jeyacheya, J. (2015). The political economy of precarious work in the tourism industry in small island developing states. *Review of International Political Economy*, 22(1), 194-223.
- Leiper, N. (1979). The framework of tourism: Towards a definition of tourism, tourist, and the tourist industry. *Annals of tourism research*, 6(4), 390-407.
- Le-Klaehn, D. T., Gerike, R., & Hall, C. M. (2014). Visitor users vs. non-users of public transport: The case of Munich, Germany. *Journal of Destination Marketing & Management*, 3(3), 152-161.
- Lemmi, E., & Mamboueni, M. H. (2015). Aree protette e turismo: fra approccio "neoliberista" e sostenibilità. Il modello delle Cinque Terre. *Geotema*, 49, 121-125.
- Lenzen, M., Sun, YY., Faturay, F. (2018). The carbon footprint of global tourism. *Nature Clim. Change*, 8, 522-528.
- Leslie, D. (Ed.). (2012). *Responsible tourism: Concepts, theory and practice*. CABI.
- Lew, A.A.; Cheer, J.M.; Haywood, M.; Brouder, P.; Salazar, N.B (2020). Visions of travel and tourism after the global COVID-19 transformation of 2020. *Tour. Geogr.* 2020, 8, 455-466.
- Lima, S., Eusébio, C., & Partidário, M. D. R. (2012). Determinants for tourism and poverty alleviation. *Tourism & management studies*, 7, 43-53.

- Lime, D. S., & Stankey, G. H. (1971). Carrying capacity. In *Recreation Symposium Proceedings* (p. 174).
- Lindberg, K., & Johnson, R. L. (1997). The economic values of tourism's social impacts. *Annals of tourism research, 24*(1), 90-116.
- Lindberg, K., McCool, S., & Stankey, G. (1997). Rethinking carrying capacity. *Annals of tourism research, 24*(2), 461-465.
- LINKS Foundation (2020). *Management Plan for the UNESCO Site Porto Venere, Cinque Terre and Islands* (Palmaria, Tino and Tinetto). UNESCO Site Office, Manarola
- Liu, A., & Wall, G. (2006). Planning tourism employment: a developing country perspective. *Tourism management, 27*(1), 159-170.
- Liu, C. H., Tzeng, G. H., Lee, M. H., & Lee, P. Y. (2013). Improving metro-airport connection service for tourism development: Using hybrid MCDM models. *Tourism Management Perspectives, 6*, 95-107.
- Liu, J. C., & Var, T. (1986). Resident attitudes toward tourism impacts in Hawaii. *Annals of tourism research, 13*(2), 193-214
- Liu, J. C., Sheldon, P. J., & Var, T. (1987). Resident perception of the environmental impacts of tourism. *Annals of Tourism research, 14*(1), 17-37.
- Lombardi, P., & Marchese, F. (2005). Scenari coevolutivi del paesaggio rurale delle Cinque Terre. *Alberto Magnaghi (a cura di), Scenari strategici. Visioni identitarie per il progetto di territorio, Alinea, Firenze.*
- Lozano, M.; Valles, J (2007). An analysis of the implementation of an environmental management system in a local public administration. *J. Environ. Manag., 82*, 495-511.
- Magro, E., & Wilson, J. R. (2015). Evaluating territorial strategies. In *Strategies for shaping territorial competitiveness* (pp. 94-110). Routledge.
- Mak, B. K., Cheung, L. T., & Hui, D. L. (2017). Community participation in the decision-making process for sustainable tourism development in rural areas of Hong Kong, China. *Sustainability, 9*(10), 1695.
- Maleka, S. (2014). Strategy management and strategic planning process. *DTPS strategic planning & monitoring, 1*(1), 1-29.
- Manera, C., & Morey, A. (2016). The growth of mass tourism in the Mediterranean, 1950-2010. *IOSR Journal of Economics and Finance (IOSR-JEF), 7*(4), 84-91.
- Mansfeld, Y., & Jonas, A. (2006). Evaluating the socio-cultural carrying capacity of rural tourism communities: a 'value stretch' approach. *Tijdschrift voor economische en sociale geografie, 97*(5), 583-601.
- Mansperger, M. (1995). Tourism and cultural change in small-scale societies. *Human organization, 54*(1), 87-94.
- Manuel-Navarrete, D. (2016). Tourism and sustainability. *Sustainability Science: An Introduction*, 283-291.
- Marin, D. (1992). Is the export-led growth hypothesis valid for industrialized countries?. *The Review of Economics and Statistics, 678-688.*
- Marsiglio, S. (2017). On the carrying capacity and the optimal number of visitors in tourism destinations. *Tourism Economics, 23*(3), 632-646.

- Mason, P. (2020). *Tourism impacts, planning and management*. Routledge.
- Mason, P., & Cheyne, J. (2000). Residents' attitudes to proposed tourism development. *Annals of tourism research, 27*(2), 391-411.
- Massidda, C., & Etzo, I. (2012). The determinants of Italian domestic tourism: A panel data analysis. *Tourism Management, 33*(3), 603-610.
- Matarrita-Cascante, D., Brennan, M. A., & Luloff, A. E. (2010). Community agency and sustainable tourism development: The case of La Fortuna, Costa Rica. *Journal of sustainable tourism, 18*(6), 735-756.
- Mathew, P. V., & Kuriakose, V. (2017). A study on the indicator framework of responsible tourism in tourism accommodation sector. *Asian Journal of Management, 8*(4), 989-996.
- Mathieson, A., & Wall, G. (1982). *Tourism, economic, physical and social impacts*. Longman.
- Archer, B., & Fletcher, J. (1996). The economic impact of tourism in the Seychelles. *Annals of tourism research, 23*(1), 32-47.
- Mathouraparsad, S., & Maurin, A. (2017). Measuring the Multiplier Effects of Tourism industry to the Economy. *Advances in Management and Applied Economics, 7*(2), 123.
- Mauerhofer, V. (2013). Social capital, social capacity and social carrying capacity: Perspectives for the social basics within environmental sustainability. *Futures, 53*, 63-73.
- Mazanec, J. A., Wöber, K., & Zins, A. H. (2007). Tourism destination competitiveness: from definition to explanation?. *Journal of Travel research, 46*(1), 86-95.
- Mazzocchi, M., & Montini, A. (2001). Earthquake effects on tourism in central Italy. *Annals of Tourism Research, 28*(4), 1031-1046.
- Mazzola, F., Cirà, A., Ruggieri, G., & Butler, R. (2022). Air transport and tourism flows to islands: A panel analysis for southern European countries. *International Journal of Tourism Research, 24*(5), 639-652.
- Mbaiwa, J. E. (2011). Changes on traditional livelihood activities and lifestyles caused by tourism development in the Okavango Delta, Botswana. *Tourism management, 32*(5), 1050-1060.
- McCool, S. F. (2016). Tourism in protected areas: Frameworks for working through the challenges in an era of change, complexity and uncertainty. *Reframing sustainable tourism, 101-117*.
- McCool, S. F., & Lachapelle, P. R. (2000). Recreational uses of mountain forests. In *Forests in sustainable mountain development: a state of knowledge report for 2000. Task Force on Forests in Sustainable Mountain Development*. (pp. 330-337). Wallingford UK: CABI Publishing.
- McCool, S. F., & Lime, D. W. (2001). Tourism carrying capacity: tempting fantasy or useful reality? *Journal of sustainable tourism, 9*(5), 372-388.
- McCool, S. F., & Martin, S. R. (1994). Community attachment and attitudes toward tourism development. *Journal of Travel research, 32*(3), 29-34.
- McDonald, J. R. (2009). Complexity science: an alternative world view for understanding sustainable tourism development. *Journal of Sustainable Tourism, 17*(4), 455-471.
- McIntyre, G. (1993). *Sustainable tourism development: guide for local planners*. World Tourism Organization (WTO).

- McKercher, B., & Prideaux, B. (2011). Are tourism impacts low on personal environmental agendas? *Journal of Sustainable Tourism*, 19(3), 325-345.
- McLoughlin, E., & Hanrahan, J. (2019). Local authority sustainable planning for tourism: lessons from Ireland. *Tourism Review*, 74(3), 327-348.
- McMinn, S. (1997). The challenge of sustainable tourism. *Environmentalist*, 17(2), 135-141.
- Menon, A.; Bharadwaj, S.G.; Adidam, P.T.; Edison, S.W. (1999). Antecedents and consequences of marketing strategy making: A model and a test. *J. Mark*, 63, 18-40. [Google Scholar] [CrossRef]
- Miao, L., Im, J., Fu, X., Kim, H., & Zhang, Y. E. (2021). Proximal and distal post-COVID travel behavior. *Annals of Tourism Research*, 88, 103159.
- Michailidou, A. V., Vlachokostas, C., Moussiopoulos, N., & Maleka, D. (2016). Life Cycle Thinking used for assessing the environmental impacts of tourism activity for a Greek tourism destination. *Journal of Cleaner Production*, 111, 499-510.
- Michelangeli G., Sampaolesi S., Satta A. (2006). Capacità di carico turistica della città di Saranda, Azioni per la sostenibilità del turismo nell' Adriatico. Azioni per la sostenibilità del turismo nell'Adriatico, Interreg III A, Adriatic Crossborde
- Mihalic, T. (2016). Sustainable-responsible tourism discourse–Towards 'responsustable'tourism. *Journal of cleaner production*, 111, 461-470.
- Milne, S., & Ateljevic, I. (2001). Tourism, economic development and the global-local nexus: Theory embracing complexity. *Tourism geographies*, 3(4), 369-393.
- Mitchell, J., & Ashley, C. (2006). Tourism business and the local economy: Increasing impact through a linkages approach. *ODI Briefing Paper*.
- Mitchell, J., & Coles, C. (2009). Enhancing private sector and community engagement in tourism services in Ethiopia. *Project Report for the World Bank*.
- Mitchell, M., & Hall, D. (2005). Rural tourism as sustainable business: key themes and issues. *Rural tourism and sustainable business*, 3-14.
- Mobley, C., Vagias, W. M., & DeWard, S. L. (2010). Exploring additional determinants of environmentally responsible behavior: The influence of environmental literature and environmental attitudes. *Environment and behavior*, 42(4), 420-447.
- Mongelli, T. L. (2009). Gli strumenti del turismo sociale: i buoni vacanze, le case per ferie e gli ostelli della gioventù. *XVI Rapporto sul Turismo Italiano*.
- Monz, C. A. (2009). Climbers' attitudes toward recreation resource impacts in the Adirondack Park's Giant Mountain Wilderness. *International Journal of Wilderness*, 15(1), 26-33.
- Mooney, S. (2018). Illuminating intersectionality for tourism researchers.
- Moscardo, G. (2008). Community capacity building: an emerging challenge for tourism development. In *Building community capacity for tourism development* (pp. 1-15). Wallingford UK: CABI.
- Moscardo, G. (2011). The role of knowledge in good governance for tourism. In *Tourist destination governance: Practice, theory and issues* (pp. 67-80). Wallingford UK: CABI.

- Moscardo, G. (2013). Exploring social representations of tourism planning: Issues for governance. In *Tourism Governance* (pp. 13-26). Routledge.
- Moscardo, G., & Murphy, L. (2014). There is no such thing as sustainable tourism: Re-conceptualizing tourism as a tool for sustainability. *Sustainability*, 6(5), 2538-2561.
- Moyle, B., Croy, G., & Weiler, B. (2010). Tourism interaction on islands: the community and visitor social exchange. *International Journal of Culture, Tourism and Hospitality Research*, 4(2), 96-107.
- Murphy, P. E., & Price, G. G. (2012). Tourism and sustainable development. In *Global tourism* (pp. 167-193). Routledge.
- Mycoo, M. (2006). Sustainable tourism using regulations, market mechanisms and green certification: a case study of Barbados. *Journal of Sustainable Tourism*, 14(5), 489-511.
- Navarro-Ruiz, S., Casado-Díaz, A. B., & Ivars-Baidal, J. (2020). Cruise tourism: The role of shore excursions in the overcrowding of cities. *International Journal of Tourism Cities*, 6(1), 197-214.
- Nepal, S.K. (2020). Adventure travel and tourism after COVID-19—business as usual or opportunity to reset? *Tour. Geogr.*, 22, 646–650.
- Niedziółka, I. (2014). Sustainable tourism development. *Regional formation and development studies*, 8(3), 157-166.
- Nientied, P., & Shutina, D. (2020). Tourism in transition, the post Covid-19 aftermath in the Western Balkans. *Annual Review of Territorial Governance in the Western Balkans*, 2, 46-60.
- Nientied, P., & Toto, R. (2022). Planning for sustainable city tourism in the Netherlands.
- Nikčević, J. (2019). Strengthening the role of local government to ensure sustainable development of the cruise sector: The case of Kotor. *Marine Policy*, 109, 103693.
- Nikolaou, I.E.; Evangelinos, K.I (2010). A SWOT analysis of environmental management practices in Greek Mining and Mineral Industry. *Resour. Policy*, 35, 226–234.
- Novy, J., & Colomb, C. (2017). *Protest and Resistance in the Tourist City*. Routledge.
- Nowak, J. J., Sahli, M., & Cortés-Jiménez, I. (2007). Tourism, capital good imports and economic growth: theory and evidence for Spain. *Tourism Economics*, 13(4), 515-536.
- Ntibanyurwa, A. (2006). Tourism as a factor of development. *WIT Transactions on Ecology and the Environment*, 97.
- OECD. *Tourism Trends and Policies*; OECD: Paris, France, 2020.
- O'Reilly, A. M. (1986). Tourism carrying capacity: Concept and issues. *Tourism management*, 7(4), 254-258.
- Overton, J. (1999). Vakavanua, vakamatanitū: discourses of development in Fiji. *Asia Pacific Viewpoint*, 40(2), 173-186.
- Oviedo-Garcia, M. A., Castellanos-Verdugo, M., & Martin-Ruiz, D. (2008). Gaining residents' support for tourism and planning. *International journal of tourism research*, 10(2), 95-109.
- Pan, S. Y., Gao, M., Kim, H., Shah, K. J., Pei, S. L., & Chiang, P. C. (2018). Advances and challenges in sustainable tourism toward a green economy. *Science of the total environment*, 635, 452-469.

- Park, D. B., & Yoon, Y. S. (2009). Segmentation by motivation in rural tourism: A Korean case study. *Tourism management*, 30(1), 99-108.
- Park, D. B., Yoon, Y. S., & Lee, M. S. (2008). Rural community development and policy challenges in South Korea. *Journal of the Economic Geographical Society of Korea*, 11(4), 600-617.
- Peco-Torres, F., Polo-Peña, A. I., & Frías-Jamilena, D. M. (2021). The effect of COVID-19 on tourists' intention to resume hotel consumption: The role of resilience. *International Journal of Hospitality Management*, 99, 103075.
- Pee, L. G., & Kankanhalli, A. (2016). Interactions among factors influencing knowledge management in public-sector organizations: A resource-based view. *Government Information Quarterly*, 33(1), 188-199.
- Pepe, A., & Percoco, A. (2021). Passato-futuro: La legacy turistica di Matera 2019 dopo il COVID-19. *Annali del turismo*, 89.
- Perdue, R. R., Long, P. T., & Allen, L. (1990). Resident support for tourism development. *Annals of tourism Research*, 17(4), 586-599.
- Perkumienė, D., & Pranskūnienė, R. (2019). Overtourism: Between the right to travel and residents' rights. *Sustainability*, 11(7), 2138.
- Perles-Ribes, J. F., Ramón-Rodríguez, A. B., Rubia, A., & Moreno-Izquierdo, L. (2017). Is the tourism-led growth hypothesis valid after the global economic and financial crisis? The case of Spain 1957–2014. *Tourism Management*, 61, 96-109.
- Peters, M., Chan, C. S., & Legerer, A. (2018). Local perception of impact-attitudes-actions towards tourism development in the Urlaubsregion Murtal in Austria. *Sustainability*, 10(7), 2360.
- Petroman, I., Cornelia, P., Diana, M., Ramona, C., Loredana, V., & Ioana, P. (2013). Types of cultural tourism. *Scientific Papers: Animal Science and Biotechnologies*, 46(1), 385-388.
- Pickvance, C.G., 1990. Introduction: the institutional context of local economic development: central controls, spatial policies and local economic policies. In: Harloe, M., Pickvance, C.G., Urry, J. (Eds.), *Place, Policy and Politics. Do localities Matter?* Unwin Hyman, London, 1–4
- Pigram, J.J. (2016). Alternative tourism: Tourism and sustainable resource management. *Tourism Alternatives*, 4, 76–87.
- Pinke-Sziva, I., Smith, M., Olt, G., & Berezvai, Z. (2019). Overtourism and the night-time economy: A case study of Budapest. *International Journal of Tourism Cities*, 5(1), 1-16.
- Pirlone, F., & Spadaro, I. (2017). Sustainable tourism action plan in the Mediterranean coastal areas. *International Journal of Sustainable Development and Planning*, 12(6), 995-1005.
- Poister, T. H., & Streib, G. (2005). Elements of strategic planning and management in municipal government: Status after two decades. *Public administration review*, 65(1), 45-56.
- Poister, T. H., Edwards, L. H., Pasha, O. Q., & Edwards, J. (2013). Strategy formulation and performance: Evidence from local public transit agencies. *Public Performance & Management Review*, 36(4), 585-615.
- Pomering, A., Noble, G., & Johnson, L. W. (2011). Conceptualising a contemporary marketing mix for sustainable tourism. *Journal of Sustainable Tourism*, 19(8), 953-969.

- Postma, A., Koens, K., & Papp, B. (2020). Overtourism: Carrying capacity revisited. In *The overtourism debate: NIMBY, nuisance, commodification* (pp. 229-249). Emerald Publishing Limited.
- Poulston, J. (2008). Rationales for employee theft in hospitality: Excuses, excuses. *Journal of Hospitality and Tourism Management*, 15, 49-58
- Prayag, G. (2020). Time for reset? COVID-19 and tourism resilience. *Tourism Review International*, 24(2-3), 179-184.
- Prentice, R. (1993). Community-driven tourism planning and residents' preferences. *Tourism Management*, 14(3), 218-227.
- Pulido-Fernández, J. I., & López-Sánchez, Y. (2011). Tourism: Analysis of a global phenomenon from a perspective of sustainability. *The systemic dimension of globalization*, 267-288.
- Purnomo, A., Wiradimadja, A., & Kurniawan, B. (2019, March). Diversification of tourism product in KSPN Ijen. In *IOP Conference Series: Earth and Environmental Science* (Vol. 243, No. 1, p. 012079). IOP Publishing.
- Quebec government, (2021). Plan d'action pour un tourisme responsable et durable. Bibliothèque et Archives nationales du Québec, ISBN : 978-2-550-88539-9
- Rajapaksha, K. (2021). COVID-19 and Tourism. *Available at SSRN 3909608*
- Raso, E., Mandarino, A., Pepe, G., Calcaterra, D., Cevasco, A., Confuorto, P., ... & Firpo, M. (2021). Geomorphology of cinque Terre national park (Italy). *Journal of Maps*, 17(3), 171-184.
- Rasool, H., Maqbool, S., & Tarique, M. (2021). The relationship between tourism and economic growth among BRICS countries: a panel cointegration analysis. *Future Business Journal*, 7(1), 1-11.
- Raszkowski, A. (2016). PEST analysis of Piechowice Municipality–power and future impact direction of environmental factors. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, (431), 18-26.
- Rehman, S. U., Giordino, D., Zhang, Q., & Alam, G. M. (2023). Twin transitions & industry 4.0: Unpacking the relationship between digital and green factors to determine green competitive advantage. *Technology in Society*, 73, 102227.
- Ribeiro, L. C. D. S., Da Silva, E. O. V., Andrade, J. R. D. L., & De Souza, K. B. (2017). Tourism and regional development in the Brazilian Northeast. *Tourism Economics*, 23(3), 717-727.
- Risteskia, M., Kocevskia, J., & Arnaudov, K. (2012). Spatial planning and sustainable tourism as basis for developing competitive tourist destinations. *Procedia-Social and Behavioral Sciences*, 44, 375-386.
- Ritchie, J. R., Crouch, G. I., & Hudson, S. (2000). Assessing the role of consumers in the measurement of destination competitiveness and sustainability. *Tourism Analysis*, 5(2-3), 69-76.
- Robertson, D., Oliver, C., & Nost, E. (2022). Short-term rentals as digitally-mediated tourism gentrification: Impacts on housing in New Orleans. *Tourism Geographies*, 24(6-7), 954-977.
- Robinson, R. N., Martins, A., Solnet, D., & Baum, T. (2019). Sustaining precarity: Critically examining tourism and employment. *Journal of Sustainable Tourism*, 27(7), 1008-1025.
- Roe, D., Ashley, C., Page, S., & Meyer, D. (2004). Tourism and the poor analysing and interpreting tourism statistics from a poverty perspective.



- Romeril, M. (1989). Tourism and the environment—accord or discord?. *Tourism management*, 10(3), 204-208.
- Ruhanen\*, L. (2004). Strategic planning for local tourism destinations: An analysis of tourism plans. *Tourism and Hospitality Planning & Development*, 1(3), 239-253.
- Ruhanen, L. (2007). Destination competitiveness: meeting sustainability objectives through strategic planning and visioning. In *Advances in modern tourism research: Economic perspectives* (pp. 133-151). Heidelberg: Physica-Verlag HD.
- Ruhanen, L. (2008). Progressing the sustainability debate: A knowledge management approach to sustainable tourism planning. *Current issues in tourism*, 11(5), 429-455.
- Rutty, M., Gössling, S., Scott, D., & Hall, C. M. (2015). The global effects and impacts of tourism: An overview. *The Routledge handbook of tourism and sustainability*, 36-63.
- Saarinen, J., & Rogerson, C. M. (2014). Tourism and the millennium development goals: Perspectives beyond 2015. *Tourism Geographies*, 16(1), 23-30.
- Saarinen, J., Rogerson, C., & Manwa, H. (2011). Tourism and Millennium Development Goals: tourism for global development? *Current Issues in Tourism*, 14(3), 201-203.
- Saltelli, A. (2007). Composite indicators between analysis and advocacy. *Social indicators research*, 81, 65-77.
- Sánchez-Fernández, M. D., Álvarez-Bassi, D., & Ramon Cardona, J. (2018). Difficulties for enjoyment of public spaces by residents: Maldonado-Punta del Este conurbation. *International Journal of Tourism Cities*, 4(3), 391-407.
- Santarem, F., Silva, R., & Santos, P. (2015). Assessing ecotourism potential of hiking trails: A framework to incorporate ecological and cultural features and seasonality. *Tourism Management Perspectives*, 16, 190-206.
- Santoro, A., Venturi, M., Piras, F., Fiore, B., Corrieri, F., & Agnoletti, M. (2021). Forest area changes in Cinque Terre National Park in the last 80 years. Consequences on landslides and forest fire risks. *Land*, 10(3), 293.
- Saraswat, M., & Sharma, A. K. (2013). Genetic Algorithm for optimization using MATLAB. *International Journal of Advanced Research in Computer Science*, 4(3), 155-159.
- Sautter, E. T., & Leisen, B. (1999). Managing stakeholders a tourism planning model. *Annals of tourism research*, 26(2), 312-328.
- Saveriades, A. (2000). Establishing the social tourism carrying capacity for the tourist resorts of the east coast of the Republic of Cyprus. *Tourism management*, 21(2), 147-156.
- Sayre, N. F. (2008). The genesis, history, and limits of carrying capacity. *Annals of the Association of American Geographers*, 98(1), 120-134.
- Schauppenlehner-Kloyber, E., & Penker, M. (2016). Between participation and collective action—From occasional liaisons towards long-term co-management for urban resilience. *Sustainability*, 8(7), 664.
- Scheyvens, R. (2007). Exploring the tourism-poverty nexus. *Current issues in tourism*, 10(2-3), 231-254.

- Scheyvens, R. (2011). The challenge of sustainable tourism development in the Maldives: Understanding the social and political dimensions of sustainability. *Asia Pacific Viewpoint*, 52(2), 148-164.
- Scheyvens, R., Banks, G., & Hughes, E. (2016). The private sector and the SDGs: The need to move beyond 'business as usual'. *Sustainable Development*, 24(6), 371-382.
- Scott, D., Hall, C. M., & Gössling, S. (2016). A report on the Paris Climate Change Agreement and its implications for tourism: Why we will always have Paris. *Journal of Sustainable Tourism*, 24(7), 933-948.
- Shaari, M. S., Ahmad, T. S. T., & Razali, R. (2018). Tourism led-inflation: A case of Malaysia. In *MATEC Web of Conferences* (Vol. 150, p. 06026). EDP Sciences.
- Sharpley, R. (2000). Tourism and sustainable development: Exploring the theoretical divide. *Journal of Sustainable tourism*, 8(1), 1-19.
- Sharpley, R. (2003). Rural tourism and sustainability-a critique. *New directions in rural tourism*, 38-53.
- Sharpley, R. (2020). Tourism, sustainable development and the theoretical divide: 20 years on. *Journal of sustainable tourism*, 28(11), 1932-1946.
- Sheldon, P. J., & Abenoja, T. (2001). Resident attitudes in a mature destination: The case of Waikiki. *Tourism management*, 22(5), 435-443.
- Sheldon, P. J., & Var, T. (1984). Resident attitudes to tourism in North Wales. *Tourism management*, 5(1), 40-47.
- Sheng, L., & Tsui, Y. (2009). A general equilibrium approach to tourism and welfare: The case of Macao. *Habitat International*, 33(4), 419-424.
- Sheng, L., & Zhao, W. (2016). Strategic destination management in the face of foreign competition: The case of Macao SAR. *Journal of Travel & Tourism Marketing*, 33(2), 263-278.
- Sigler, T., & Wachsmuth, D. (2020). New directions in transnational gentrification: Tourism-led, state-led and lifestyle-led urban transformations. *Urban Studies*, 57(15), 3190-3201.
- Simão, J.N.; Partidário, M.D.R. (2012). How does tourism planning contribute to sustainable development? *Sustain. Dev.*, 20, 372-385.
- Simón, F. J. G., Narangajavana, Y., & Marques, D. P. (2004). Carrying capacity in the tourism industry: a case study of Hengistbury Head. *Tourism management*, 25(2), 275-283.
- Simpson, K. (2001). Strategic planning and community involvement as contributors to sustainable tourism development. *Current issues in Tourism*, 4(1), 3-41.
- Singh, N., & Kosi-Katarmal, A. (2009). SWOT analysis—a useful tool for community vision. *Researcher*, 1, 25-27.
- Singh, T. (2018). Is over-tourism the downside of mass tourism? *Tourism Recreation Research*, 43(4), 415-416.
- Smith, M. K. (2015). *Issues in cultural tourism studies*. Routledge.
- Smith, M. K., Sziva, I. P., & Olt, G. (2021). Overtourism and resident resistance in Budapest. In *Travel and Tourism in the Age of Overtourism* (pp. 24-40). Routledge.
- Smith, M.K., Egedy, T., Csizmady, A., Jancsik, A., Olt, G. and Michalkó, G. (2017), "Non-planning and tourism

- Sofronov, B. (2018). The development of the travel and tourism industry in the world. *Annals of Spiru Haret University. Economic Series*, 18(4), 123-137.
- Srdjevic, Z.; Bajcetic, R.; Srdjevic, B. (2012). Identifying the criteria set for multicriteria decision making based on SWOT/PESTLE analysis: A case study of reconstructing a water intake structure. *Water Resour. Manag*, 26, 3379-3393.
- Stabler, M. (1997). *Tourism and sustainability: Principles to practice. (No Title)*.
- Stone, M. T. (2015). Community empowerment through community-based tourism: The case of Chobe Enclave Conservation Trust in Botswana. *Institutional arrangements for conservation, development and tourism in eastern and southern Africa: A dynamic perspective*, 81-100.
- Stone, M. T., & Nyaupane, G. P. (2018). Protected areas, wildlife-based community tourism and community livelihoods dynamics: Spiraling up and down of community capitals. *Journal of Sustainable Tourism*, 26(2), 307-324.
- Styles, D., Schoenberger, H., & Galvez-Martos, J. L. (2015). Water management in the European hospitality sector: Best practice, performance benchmarks and improvement potential. *Tourism Management*, 46, 187-202.
- Stynes, D. J. (1997). *Economic impacts of tourism: A handbook for Tourism professionals*; Illinois Bureau of Tourism, Illinois Department of commerce and Community Affairs, Prepared by the Tourism Research Laboratory, University of Illinois
- Sun, Y. Y., & Pratt, S. (2014). The economic, carbon emission, and water impacts of Chinese visitors to Taiwan: Eco-efficiency and impact evaluation. *Journal of Travel Research*, 53(6), 733-746.
- Supradist, N. (2004). *Economic leakage in tourism sector*.
- Swarbrooke, J. (1999). *Sustainable tourism management*. Cabi.
- Swarbrooke, J., & Horner, S. (2007). *Consumer behaviour in tourism*. Routledge.
- Symmonds, M. C., Hammitt, W. E., & Quisenberry (2000). Managing recreational trail environments for mountain bike user preferences. *Environmental Management*, 25, 549-564.
- Tajeddini, K., Ratten, V., & Denisa, M. (2017). Female tourism entrepreneurs in Bali, Indonesia. *Journal of Hospitality and Tourism Management*, 31, 52-58.
- Telfer, D. J., & Sharpley, R. (2015). *Tourism and development in the developing world*. Routledge.
- Terranova, R. E. M. O., Zanzucchi, G., Bernini, M. A. S. S. I. M. O., Brandolini, P. I. E. R. L. U. I. G. I., Campobasso, S. I. L. V. I. A., Faccini, F., & Zanzucchi, F. (2006). Geologia, geomorfologia e vini del parco Nazionale delle Cinque Terre (Liguria, Italia). *Bollettino della Società Geologica Italiana Spec*, 6, 115-128.
- Teye, V., Sirakaya, E., & Sönmez, S. F. (2002). Residents' attitudes toward tourism development. *Annals of tourism research*, 29(3), 668-688.
- Thomas-Francois, K., von Massow, M., & Joppe, M. (2017). Service-oriented, sustainable, local food value chain—A case study. *Annals of Tourism Research*, 65, 83-96.
- Tkalec, M., & Vizek, M. (2016). The price tag of tourism: does tourism activity increase the prices of goods and services?. *Tourism economics*, 22(1), 93-109.

- Torres-Delgado, A., & Saarinen, J. (2017). Using indicators to assess sustainable tourism development: a review. *New research paradigms in tourism geography*, 31-47.
- Tosun, C. (2000). Limits to community participation in the tourism development process in developing countries. *Tourism management*, 21(6), 613-633.
- Tosun, C., & Jenkins, C. L. (1998). The evolution of tourism planning in Third-World countries: a critique. *Progress in tourism and hospitality research*, 4(2), 101-114.
- Tosun, C., & Timothy, D. J. (2001). Shortcomings in planning approaches to tourism development in developing countries: the case of Turkey. *International Journal of Contemporary Hospitality Management*, 13(7), 352-359.
- Tredici, M. (2016). Approcci e metodi per l'analisi e la gestione delle componenti agroforestali nei paesaggi culturali UNESCO. Il caso di Porto Venere, Cinque Terre e Isole.
- Tribe, J. (1999). The concept of tourism: Framing a wide tourism world and broad tourism society. *Tourism Recreation Research*, 24(2), 75-81.
- Truong, V. D. (2013). Tourism policy development in Vietnam: A pro-poor perspective. *Journal of Policy Research in Tourism, Leisure and Events*, 5(1), 28-45.
- TSG. (2012). Charter for Sustainable and Responsible Tourism.
- Tullio, P. (2021). Airbnb nell'Unione europea: tra prevenzione della concorrenza sleale e libera prestazione dei servizi. *Rivista italiana di diritto del turismo*, 2021-32.
- UN, (2001). Third United Nations Conference on the Least Developed Countries.
- United Nations Environment Programme (UNEP) and World Tourism Organization (UNWTO) (2012), *Tourism in the Green Economy Background Report*.
- United Nation Environmental Program (UNEP), (2003), *Guidelines for Carrying Capacity Assessment for Tourism in Mediterranean Coastal Areas, Priority Actions Programme Mediterranean Action Plan*
- United Nations (2021). Covid-19 and Tourism, an Update; United Nation Conference on Trade and Development, 2021, [https://unctad.org/system/files/official-document/ditcinf2021d3\\_en\\_0.pdf](https://unctad.org/system/files/official-document/ditcinf2021d3_en_0.pdf)
- UNWTO & UNDP. (2017). *Tourism and the sustainable development goals – Journey to 2030*. Madrid: UNWTO.
- UNWTO. (2019). *Tourism Highlights*. Madrid, Spain.
- Uslu, A., Alagöz, G., & Güneş, E. (2020). Socio-cultural, economic, and environmental effects of tourism from the point of view of the local community. *Journal of Tourism and Services*, 11(21), 1-21.
- Vargas Sánchez, A., Plaza Mejía, M., & Porrás Bueno, N. (2007). The attitude of the resident population towards a major tourism development and its determining factors: a case study. Industrial tourism in the Province of Huelva. *Estudios Turísticos*, (174), 73-99.
- Vegnuti, R. (2020). Cinque Terre, Italy-a case of place branding: from opportunity to problem for tourism. *Worldwide Hospitality and Tourism Themes*, 12(4), 471-483.
- Vellas, F. (2011). The indirect impact of tourism: an economic analysis. In *Third Meeting of T20 Tourism Ministers*. Paris, France.

- Vellas, F. (2016). *The international marketing of travel and tourism: A strategic approach*. Bloomsbury Publishing.
- Vogt, S., & Haas, A. (2015). The future of public participation in Germany: Empirical analyses of administration experts' assessments. *Technological Forecasting and Social Change, 98*, 157-173.
- Voinov, A., Jenni, K., Gray, S., Kolagani, N., Glynn, P. D., Bommel, P., ... & Smajgl, A. (2018). Tools and methods in participatory modeling: Selecting the right tool for the job. *Environmental Modelling & Software, 109*, 232-255.
- Voltes-Dorta, A., Jiménez, J. L., & Suárez-Alemán, A. (2014). An initial investigation into the impact of tourism on local budgets: A comparative analysis of Spanish municipalities. *Tourism Management, 45*, 124-133.
- Wachsmuth, D., & Weisler, A. (2018). Airbnb and the rent gap: Gentrification through the sharing economy. *Environment and planning A: economy and space, 50*(6), 1147-1170.
- Wall, G. (1997). Is ecotourism sustainable? *Environmental management, 21*(4), 483-491.
- Wall, G., & Mathieson, A. (2006). *Tourism: change, impacts, and opportunities*. Pearson Education.
- WCED. (1987). *Our common future*. Oxford: Oxford University Press.
- Weidenfeld, A. (2018). Tourism diversification and its implications for smart specialisation. *Sustainability, 10*(2), 319.
- Welford, R., Ytterhus, B., & Eligh, J. (1999). Tourism and sustainable development: an analysis of policy and guidelines for managing provision and consumption. *Sustainable development, 7*(4), 165-177.
- Wheeller, B. (1993). Sustaining the ego. *Journal of sustainable tourism, 1*(2), 121-129.
- Wong, J. D. (1996). The impact of tourism on local government expenditures. *Growth and change, 27*(3), 313-326.
- Wong, P. P. (2004). Environmental impacts of tourism. *A companion to tourism, 450-461*.
- Wray, M. (2013). Adopting and implementing a transactive approach to sustainable tourism planning: Translating theory into practice. In *Tourism governance* (pp. 195-217). Routledge.
- Wray, M., Dredge, D., Cox, C., Buultjens, J., Hollick, M., Lee, D., & Lacroix, C. (2010). Sustainable regional tourism destinations: Best practice for management, development and marketing. *Goldcoast: CRC for Sustainable Tourism Pty Ltd*.
- WTTC and McKinsey & Company. (2017). *Coping with success: Managing overcrowding in tourism destinations*. London: WTTC.
- Wu, Z., & Liu, B. (2023, July). Development Strategies of Smart City Construction Based on PEST-SWOT Analysis. In *2023 3rd International Conference on Public Management and Intelligent Society (PMIS 2023)*(pp. 1373-1382). Atlantis Press.
- Xiao, H. (2006). The discourse of power: Deng Xiaoping and tourism development in China. *Tourism Management, 27*(5), 803-814.
- Yang, J., Ryan, C., & Zhang, L. (2013). Social conflict in communities impacted by tourism. *Tourism management, 35*, 82-93.

- Yang, Y., & Fik, T. (2014). Spatial effects in regional tourism growth. *Annals of Tourism Research*, 46, 144-162.
- Yasong, W., & Roberte, E. P. (2008). Residents' attitudes toward tourism and perceived personal benefits in a rural community. *Journal of Travel Research*, 47(1), 84-93.
- Yolal, M. (2016). Authenticity, commodification, and McDonaldization of tourism experiences in the context of cultural tourism. In *The handbook of managing and marketing tourism experiences* (pp. 217-233). Emerald Group Publishing Limited.
- Yoon, Y., Gursoy, D., & Chen, J. S. (2001). Validating a tourism development theory with structural equation modeling. *Tourism management*, 22(4), 363-372.
- Yüksel, A., Yüksel, F., & Culha, O. (2012). Ministers' statements: a policy implementation instrument for sustainable tourism?. *Journal of Sustainable Tourism*, 20(4), 513-532.
- Zelenka, J., & Kacetyl, J. (2014). The concept of carrying capacity in tourism. *Amfiteatru Economic Journal*, 16(36), 641-654.
- Zhang, H., Gu, C. L., Gu, L. W., & Zhang, Y. (2011). The evaluation of tourism destination competitiveness by TOPSIS & information entropy-A case in the Yangtze River Delta of China. *Tourism Management*, 32(2), 443-451.
- Zhang, J., & Zhang, Y. (2018). Carbon tax, tourism CO2 emissions and economic welfare. *Annals of Tourism Research*, 69, 18-30.
- Zhong, L., Deng, J., Song, Z., & Ding, P. (2011). Research on environmental impacts of tourism in China: Progress and prospect. *Journal of environmental management*, 92(11), 2972-2983.
- Zimmermann, F. M. (2018). Does sustainability (still) matter in tourism (geography). *Tourism Geographies*, 20(2), 333-336.

## SITOGRAHY

Corriere della Sera, 2006

[https://www.corriere.it/Primo\\_Piano/Cronache/2006/07\\_Luglio/18/muraglia.shtml](https://www.corriere.it/Primo_Piano/Cronache/2006/07_Luglio/18/muraglia.shtml)

Corriere della Sera, 2017

[https://www.corriere.it/sette/17\\_giugno\\_29/cosa-ci-fa-milione-cinesi-cinque-terre-20d722a8-5d83-11e7-a3ba-28ae329eb765.shtml](https://www.corriere.it/sette/17_giugno_29/cosa-ci-fa-milione-cinesi-cinque-terre-20d722a8-5d83-11e7-a3ba-28ae329eb765.shtml)

Corriere della sera, 2023

[https://www.corriere.it/economia/consumi/23\\_luglio\\_26/overtourism-italia-europa-turisti-cbc23f3c-2a09-11ee-84ae-fdab1efa7b6b.shtml](https://www.corriere.it/economia/consumi/23_luglio_26/overtourism-italia-europa-turisti-cbc23f3c-2a09-11ee-84ae-fdab1efa7b6b.shtml)

CGIL Liguria, 2022

<https://www.liguria.cgil.it/wp-content/uploads/ANDAMENTO-TURISTICO-2022.pdf>

CNN, 2018

<https://edition.cnn.com/travel/article/places-to-avoid-2018/index.html>

Deloitte, 2022

<https://www2.deloitte.com/content/dam/Deloitte/it/Documents/consumer-business/cs-obiettivo-sostenibilita-turismo-italiano-2022.pdf>

Internazionale, 2016

<https://www.internazionale.it/reportage/angelo-mastrandrea/2016/10/25/cinque-terre-alluvione-turismo-sostenibile>

ISPRA, 2016

<https://indicatoriambientali.isprambiente.it/ada/downreport/html/7032>

ISPRA, 2020

[https://indicatoriambientali.isprambiente.it/sys\\_ind/725](https://indicatoriambientali.isprambiente.it/sys_ind/725)

Istat, 2022

<https://noi-italia.istat.it/pagina.php?L=0&categoria=8&dove=ITALIA>

La Repubblica, 2003

<https://ricerca.repubblica.it/repubblica/archivio/repubblica/2003/07/14/america-adotta-le-terre.html>

La Repubblica, 2006

<https://ricerca.repubblica.it/repubblica/archivio/repubblica/2006/06/30/cinque-terre-nel-mio-dna.html>

La Repubblica, 2017

[https://genova.repubblica.it/cronaca/2017/05/04/news/cinque\\_terre\\_i\\_sentieri\\_diventano\\_a\\_numero\\_chiuso-164550472/](https://genova.repubblica.it/cronaca/2017/05/04/news/cinque_terre_i_sentieri_diventano_a_numero_chiuso-164550472/)

La Repubblica, 2019

[https://genova.repubblica.it/cronaca/2019/04/30/news/assalto\\_alle\\_cinque\\_terre\\_la\\_sindaca\\_infuriata\\_d\\_enuncio\\_trenitalia\\_e\\_chiudo\\_le\\_stazioni\\_-225149072/](https://genova.repubblica.it/cronaca/2019/04/30/news/assalto_alle_cinque_terre_la_sindaca_infuriata_d_enuncio_trenitalia_e_chiudo_le_stazioni_-225149072/)

La Repubblica, 2019

<https://video.repubblica.it/edizione/genova/cinque-terre-troppi-turisti-la-richiesta-di-limitare-gli-arrivi-fa-litigare-sindaca-e-ferrovie/338867/339468>

La Repubblica, 2021

[https://www.repubblica.it/venerdi/2021/02/19/news/luca\\_pixar\\_cinque\\_terre\\_reportage\\_turismo\\_riomaggiore\\_monterosso\\_parco\\_nazionale-287810744/](https://www.repubblica.it/venerdi/2021/02/19/news/luca_pixar_cinque_terre_reportage_turismo_riomaggiore_monterosso_parco_nazionale-287810744/)

La Repubblica, 2022

[https://genova.repubblica.it/cronaca/2022/08/15/news/levante\\_unestate\\_da\\_record\\_cinque\\_terre\\_sotto\\_assedio-361717419/](https://genova.repubblica.it/cronaca/2022/08/15/news/levante_unestate_da_record_cinque_terre_sotto_assedio-361717419/)

La Repubblica, 2023

[https://genova.repubblica.it/cronaca/2023/04/05/news/lo\\_scrittore\\_maggiani\\_le\\_cinque\\_terre\\_soffocate\\_dal\\_turismo\\_e\\_la\\_justa\\_nemesi\\_per\\_le\\_loro\\_scelte\\_hanno\\_pensato\\_solo\\_ad\\_-394961544/](https://genova.repubblica.it/cronaca/2023/04/05/news/lo_scrittore_maggiani_le_cinque_terre_soffocate_dal_turismo_e_la_justa_nemesi_per_le_loro_scelte_hanno_pensato_solo_ad_-394961544/)

La Repubblica, 2023

[https://genova.repubblica.it/cronaca/2023/04/07/news/monterosso\\_il\\_sindaco\\_moggia\\_per\\_le\\_cinque\\_terre\\_serve\\_una\\_legge\\_contro\\_i\\_poteri\\_forti\\_del\\_turismo-395256817/](https://genova.repubblica.it/cronaca/2023/04/07/news/monterosso_il_sindaco_moggia_per_le_cinque_terre_serve_una_legge_contro_i_poteri_forti_del_turismo-395256817/)  
[https://genova.repubblica.it/cronaca/2023/04/11/news/lassalto\\_dei\\_turisti\\_alle\\_cinque\\_terre\\_il\\_sindaco\\_di\\_vernazza\\_riducete\\_il\\_numero\\_di\\_treni-395695517/](https://genova.repubblica.it/cronaca/2023/04/11/news/lassalto_dei_turisti_alle_cinque_terre_il_sindaco_di_vernazza_riducete_il_numero_di_treni-395695517/)  
[https://genova.repubblica.it/cronaca/2023/04/06/news/la\\_sindaca\\_di\\_riomaggiore\\_fabrizia\\_pecunia\\_maggiani\\_ha\\_ragione\\_le\\_cinque\\_terre\\_sono\\_da\\_ricostruire\\_-395100728/](https://genova.repubblica.it/cronaca/2023/04/06/news/la_sindaca_di_riomaggiore_fabrizia_pecunia_maggiani_ha_ragione_le_cinque_terre_sono_da_ricostruire_-395100728/)  
[https://genova.repubblica.it/cronaca/2023/04/13/news/cinque\\_terre\\_donatella\\_bianchi\\_chiede\\_una\\_legge\\_nazionale\\_per\\_gestire\\_i\\_flussi-395915516/](https://genova.repubblica.it/cronaca/2023/04/13/news/cinque_terre_donatella_bianchi_chiede_una_legge_nazionale_per_gestire_i_flussi-395915516/)

New York Times, 2013

<https://www.nytimes.com/2013/10/06/travel/treasures-of-the-cinque-terre.html>

Secolo XIX, 2008

<https://www.ilsecoloxix.it/la-spezia/2008/06/11/news/5-terre-e-appennino-si-alleano-1.33411406>

Secolo XIX, 2008

<https://www.ilsecoloxix.it/la-spezia/2015/09/28/news/una-petizione-per-salvare-le-5-terre-dal-turismo-di-massa-1.31692217>

Secolo XIX, 2020

<https://www.ilsecoloxix.it/la-spezia/2020/04/14/news/cinque-terre-deserte-1.38716015>

Secolo XIX, 2022

[https://www.ilsecoloxix.it/la-spezia/2022/11/27/news/nelle\\_cinque\\_terre\\_tre\\_milioni\\_di\\_visitatori\\_sentiero\\_azzurro\\_tremila\\_turisti\\_in\\_12\\_ore-12271889/#:~:text=Cinque%20Terre%2C%20tre%20milioni%20di,12%20ore%20%2D%20Il%20Secolo%20XIX](https://www.ilsecoloxix.it/la-spezia/2022/11/27/news/nelle_cinque_terre_tre_milioni_di_visitatori_sentiero_azzurro_tremila_turisti_in_12_ore-12271889/#:~:text=Cinque%20Terre%2C%20tre%20milioni%20di,12%20ore%20%2D%20Il%20Secolo%20XIX)

Secolo XIX, 2023

[https://www.ilsecoloxix.it/la-spezia/2023/09/25/news/cinque\\_terre\\_invasione\\_dinizio\\_autunno-13403190/](https://www.ilsecoloxix.it/la-spezia/2023/09/25/news/cinque_terre_invasione_dinizio_autunno-13403190/)

Sustainable Tourism Forum, 2023

<https://www.etifor.com/it/wp-content/uploads/sites/2/2023/09/Sustainable-Tourism-Forum-2023.pdf>

The Guardian, 2014

<https://www.theguardian.com/travel/2014/apr/27/cinque-terre-italy-walking-holiday>

Unitary territorial tourism board La Spezia, 2022

<http://www.entebilateralelaspezia.it/wp-content/uploads/2018/01/1.-Report-TURISMO.pdf>