

ENHANCING AND PROMOTING PANTELLERIA'S HERITAGE, WHAT PROSPECTS FOR TOURISM?

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Abstract

This paper provides an overview of the landscape and historical-cultural heritage of Pantelleria, describing its transformations and highlighting the opportunities for tourism enhancement. Through a qualitative-quantitative study that combines the analysis of interviews with tourism activity indices, it aims to outline activities that could implement sustainable tourism, thereby supporting the local economy. The island's attractive potential is still partially unexpressed: despite ongoing territorial transformations being a potential tourism development opportunity, problematic elements remain that could hinder the success of this process.

Keywords: Pantelleria, tourism, heritage, island, landscape

1. Introduction

The establishment of the National Park on the island of Pantelleria in 2016 has stimulated reflections on new tourism development trajectories aimed at strengthening and diversifying the local offer. This includes innovatively adapting beach tourism and opening new types and methods of tourism to mitigate seasonality and attract new audiences (Privitera 2022). In particular, the restoration of the island's extensive trail network and the establishment of guided trekking routes offer tourists a wider choice of activities that – if adequately supported by cultural and gastronomic experiences – could allow tourists to enjoy the island year-round. Climate specificities and the island's landscape variety contribute to extending the tourist season. Today, Pantelleria's appeal is not solely tied to its beaches but also to thermal waters and other secondary volcanic phenomena, as well as to a picturesque rural landscape rich in historical-cultural testimonies. It is undeniable that Pantelleria has great potential and that the local administration has worked extensively in recent years to enhance and promote the territory in its complexity, stimulating its use even in the so-called shoulder seasons. However, this is a process whose results will only be tangible in the long term. Currently, tourism in the island remains concentrated in July and August, driven by beach tourism based predominantly on second homes. It is therefore necessary to understand if and how tourism flows could alter the fragile balance, negatively impacting natural and cultural resources and making the destination less attractive to potential users (Cardillo et al. 2021). Hall (2010) describes this phenomenon as the “tourism paradox on islands”, particularly in the Mediterranean,

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where tourism has often become one of the economic development tools. From a preliminary analysis of official statistics and the calculation of some pressure indices, Pantelleria's situation, compared to other Sicilian islands/archipelagos, does not raise particular concerns. However, by narrowing the observation field and introducing the qualitative component – derived from in-depth field interviews with various local actors – the obtained results are markedly different. This paper presents preliminary results of a more complex and articulated empirical study that will be developed throughout 2025 aimed at understanding through field data and interviews what activities could implement sustainable tourism in order to minimize environmental and social impacts and consequently support the local economy.

2. Pantelleria, an island in the middle of the sea, but no sailors and fishermen

Paraphrasing a famous passage from the song “*Terra e mari*” by Gianni Bernardo (Pantelleria artist, writer, and actor), some of Pantelleria's specificities are revealed: besides the absence of sailors and fishermen, the island is marked by an agricultural vocation and a strategic positioning in the middle of the Mediterranean (D'Aietti, 2009). The island covers an area of 8,453 hectares and is located in the centre of the Sicilian Channel on the rift separating the African and European continents (Figure 1). Pantelleria has a volcanic origin (Imbò 1957), estimated to have appeared about 320,000 years ago (Mahood and Hildreth 1986), rising between the northern and southern shores of the Mediterranean basin. The geological origin of the island is characterized by volcanic rocks (pantellerites and trachytes) and basalts (Civetta et al. 1988; Agnesi 1995; Mazzola et al. 2001). Viewed from above, its shape resembles a slightly oblong patella; seen from the sea, the coasts are almost everywhere high or rocky; the southern and south-eastern parts of the island feature older rocks and higher elevations (Montagna Grande 843 m asl, Monte Gibeles 700 m asl) and often steep slopes; the northern and north-eastern parts have less pronounced elevations (Gelfiser 394 m asl; Gelkhamar 247 m asl), gentler slopes, and basaltic covers from fluid lava flows. The volcanic nature of the island has led to the formation of emergent rocks and soils with varying agronomic value, from the low-interest lithosols to the relatively high-interest regosols composed of pyroclastic materials or volcanic ash found in depressions and alluvial zones (Barbera et al. 2010). Overall, the climate is mild, with an average annual temperature of 18.1°C, minimum peaks in January (11.7°C) and maximum in August (25.6°C); rainfall barely exceeds 400 mm/year, with a dry period lasting 5 months; additionally, there is a constant presence of wind (mainly Mistral and Sirocco) estimated to be present for about 338 days a year (Deguillaume et al. 2022). The local flora includes typical elements from both continents, their presence being partly attributed to human activity and partly natural (wind and birds), featuring species from Sardinia-Corsica, Iberian-African, and the Eastern Mediterranean (Sommier 1908; Agostini 1973; Mazzola et al. 2001). The current result is a climate-adapted vegetation of Holm oak (*Quercus ilex*), Maritime pine (*Pinus pinaster*), and Aleppo pine (*Pinus halepensis*) forests, transitioning to maquis and garrigue with strawberry tree (*Arbutus unedo*), Mediterranean honeysuckle (*Locera implexa*), and dittany (*Daphne gnidium*). The island is frequently affected by fires, often of arson origin, one of the most devastating of which occurred in late spring 2016 on the western slope of Montagna Grande, whose ecosystem is still being restored.

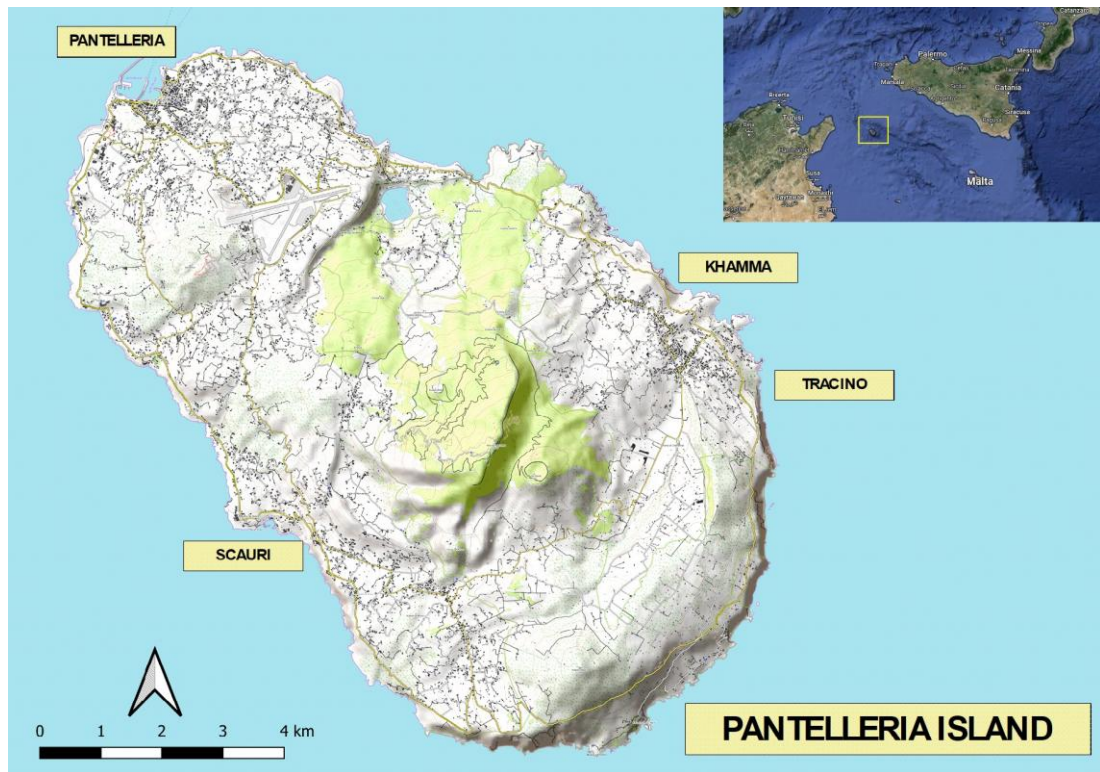


Figure 1: Geographical Setting.

Source: Own elaboration on QGIS based on data from Regione Sicilia, Google Satellite and OpenTopoMap.

Over 71% of the entire surface is covered by terraces (Barbera et al. 2010), demonstrating a long and complex process of territorialization and the agricultural vocation of the island. However, many of these are now abandoned and/or have undergone rewilding processes, especially in the last three decades (Lotta et al. 2018). These processes have significantly impacted the distinctive landscape heritage, which, despite such changes, still retains its distinctive character and is a decisive element for the island's tourist appeal. Over the centuries, agricultural activity has shaped a unique landscape, moulding lava and earth into an agricultural mosaic of traditional non-irrigated crops protected by dry stone walls and terraces, giving the landscape extraordinary aesthetic charm and great scenic impact (Agnoletti 2010).

3. The landscape and historical-cultural heritage of Pantelleria

In the island's geomorphological and ecosystem complexity, human activity plays a decisive and almost dominant role: farmers have been able to shape the harsh Pantelleria land, making much of it cultivable thanks to terraces. The rural landscape heritage, included in the National Register of Historical Rural Landscapes under the name “Pantelleria’s Dry Stone Landscape and Traditional Agricultural Practices and Knowledge”, is a fundamental resource for local development. It is the result of centuries of territorialisation processes that have made agriculture possible on the island and maintained the hydrogeological setup (Casano and Spotorno 2023). Today,

this heritage continues to play a significant role and constitutes a potential element for diversifying the local tourism offer, ensuring the possibility of alternative itineraries and trekking to beach tourism.

Distinctive elements of Pantelleria's landscape include the typical dry stone walls separating properties and supporting terraces and the *dammusi* and other architectural elements characterising the rural Pantelleria property (*jardínu*, *sarduni*, *makasénu*, *stinnituri*, *àira...*). The agricultural tradition can be linked to lithic agriculture techniques: several crops are placed at the foot of dry stone walls, near, or inside circular structures, enjoying ideal conditions. In summer, dry stone walls can offer shaded areas where temperatures are lower; additionally, the stones heat up quickly but cool down just as quickly, releasing accumulated heat to the surrounding air at night, reducing the thermal range between day and night. The rapid cooling of the walls' surfaces favours the condensation of moisture from the hot and humid summer air. Consequently, fruit plants were traditionally grown near these areas, especially those most protected from strong winds. The most striking example of Pantelleria's lithic agricultural work is undoubtedly the Pantelleria gardens (*jardína*); these agricultural systems are unique in the Mediterranean context for the way in which they, most of the time, accommodate single trees (generally citrus) to protect them from the wind, and to ensure ideal climatic conditions (Figure 2). The Pantelleria gardens have been the subject of numerous studies (Barbera et al. 2010; Barbera et al. 2018).



Figure 2: Jardina of Bukkuram.

Sourece: Photo by Gabriele Casano.

According to Barbera (2021), this type of construction represents “the primordial idea of the garden: a fruit tree enclosed by a fence”; the structure, predominantly circular with a variable diameter and a height reaching up to 5 meters, is built entirely of dry stone with a small access door and a precipitation collection system mainly related to the inward slope of the top edges of the wall.

Viticulture still plays an important role in the economy of the island. The method of vine training called “*ad alberello a conca*” is internationally renowned, also thanks to its recognition by UNESCO (2014), which included it in the list of Intangible Cultural Heritage of Humanity. The practice of the Pantelleria bush-trained vine responds to the environmental and climatic specificities that require strategies to maximize the amount of heat radiated from the soil, reduce moisture dispersion, and exposure to winds. Consequently, the vine takes the form of a small tree with branches running close to the ground and the creation of a basin is needed, whose depth has progressively decreased mainly due to the lack of available labor (Casano and Spotorno, 2023). The grapes are harvested exclusively by hand between the second decade of August and the end of September and are placed on the *stinnituri*, structures leaning against dry stone walls where the bunches are laid out to dry under the heat radiated by the stones. The most widespread vine cultivar on the island, from which over 93% of the total production derives, is the Muscat of Alexandria, known as *zibibbo*, from which the famous Passito di Pantelleria and Moscato di Pantelleria wines are obtained (Tudisca et al., 2011). The diversification of winemaking is one of the effects of tourism development, as local productions of white table wines and other recently introduced types have recently grown due to their demand in local bars and restaurants. Surely the Dry Stone Landscape and the cultivation of the bush-trained vine show how and to what extent the agricultural exploitation of the territory has contributed to modifying and characterizing the Pantelleria landscape, making it, at least potentially, an integral part of the local tourist offer together with other distinctive elements such as, for example, the Bagno dell’Acqua lake, also known as Lake of Venus or Mirror of Venus (Figure 3). This is an endorheic basin located within the caldera depression of Cinque Denti with crystal-clear waters, whose changing colors range from turquoise to cobalt blue, with pearly shores and thermal springs. The exceptionality of this lake ecosystem is due not only to the presence of specific fauna and flora and its role as a natural observation point for migratory birds but above all to the fact that it constitutes one of the rarest sites in the world for siliceous stromatolites and a potential natural laboratory of exobiology (Convenzione per la collaborazione..., 2019).

The lake, therefore, represents a site of significant hydrogeological interest that complements the island's geosite offer, represented by three known volcanological interest sites related to secondary volcanic manifestations, such as: Favara Grande, Fumaroles of the Old Barracks, Fumaroles of Mount Gibeale. The National Park has also reported the existence of other eighty potential geosites (Isola di Pantelleria Parco Nazionale, 2024).

The current Pantelleria landscape can be considered as the result of the interplay between human activity, historical geomorphological conformation, ongoing secondary volcanism, the constant presence of wind, the absence of water sources, and low rainfall. Additionally, the landscape is marked by the historical, political, and economic events that have characterised the two shores of the Mediterranean between which the island stands (Renzullia et al, 2019). The island has numerous archaeological sites, more or less studied and enhanced; the main areas are the Punic-

Roman sanctuary of the lake, the late-Roman settlement of Scauri, the acropolis of San Marco, and the aforementioned prehistoric village of Mursía with the area of the Sesi (Figure 4). In addition, rock-hewn burial grounds are found in Contrada Zighidí, in the locality of Serraglia, and in the southeastern side of Piana di Ghirlanda.

In recent years, thanks especially to the establishment of the National Park, the promotion of the historical-cultural heritage has gradually become another crucial element for the island's tourism success.

An example of this is the recent establishment of a new museum section dedicated to the protohistoric village of Mursia and the Sesi necropolis at the Geo-Naturalistic Museum of Punta Spadillo (Isola di Pantelleria Parco Nazionale, 2024).



Figure 3: Bagno dell'Acqua.

Source: Photo by Gabriele Casano.

Other elements contributing to the cultural heritage of the island are the Dry Stone Landscape, which constitutes a distinctive landscape element of the territory (D'Ascanio et al., 2021) and the military structures dating back to the Fascist period, still in excellent condition: these include the Nervi hangar, an example of engineering excellence and innovation, and defence works dug into the rock, often on steep coastal slopes, of undeniable historical and landscape value. However, as highlighted by some (Culoma et al., 2022), the historical-cultural heritage of Pantelleria has not been adequately enhanced yet, mainly due to insufficient funding allocated to the archaeological sector and most of efforts still concentrate on beach tourism. Loss of agricultural activity means that, despite several conservation and awareness projects,

traditional agro-sylvo-pastoral practices such as the bush-trained vine cultivation will be lost in the near future (Casano and Spotorno, 2023). The most significant example is the “Virtual Museum of the Bush-Trained Vine Agricultural Practice of Pantelleria UNESCO Heritage” project, realised by MedEatResearch (Pantelleria Unesco, 2023).



Figure 4: Sese Grande.

Source: Photo by Gabriele Casano.

4. Territorial transformation and internal narration

The processes of territorial transformation on the island of Pantelleria are the result of complex economic, political, and social dynamics that can be better understood through the voices of its inhabitants. Riley and Harvey (2005) underline the importance of oral storytelling for the study of landscapes and rural territories and for the development of the concept of heritage; Pollice (2022) also highlights the crucial role of *placetelling* for local development as it includes both the increase in attractiveness and the promotion of the “heritagisation of territorial capital”. In this perspective, narratives from the interior (Casano and Spotorno, 2023) have been collected in Pantelleria from privileged witnesses who operate in the agricultural sector – often in close contact with the tourism sector mainly in hospitality and/or catering – to understand the transformation that the island has undergone since the post-World War II period. Below are three excerpts from interviews conducted in 2022 with inhabitants who still work the land. The interviews took place directly at their workplaces (wineries, production facilities, and cultivated fields) and offer a general

picture of the Pantelleria context as they were carried out in three different locations on the island, relatively distant from each other and with different pedoclimatic characteristics. Mueggen is located in the southeastern part of the island at the foot of Montagna Grande; Bugeber is in the northern part of the island and is the district of Bagno dell'Acqua; Bukkuram, whose name translated from Arabic means “father of the vineyard”, is located southwest of Bugeber and northwest of Mueggen.

«L'agricoltura a Pantelleria è morta da parecchio (...) quella che ha reso unica l'isola. Un senso che non ho solo io, vedo qualche superstite (...) che ha lo stesso sentimento: il senso di lutto. (...) La nostra cornice di vita (...) è stata stravolta. Non c'è nessuno che vive di agricoltura. Non fatevi ingannare se io faccio un po' di passito e qualcun altro fa vino, sono chicchi, gocce in un mare. (...) Chi coltiva qualche terreno è perché ci è legato»¹.

Salvatore Ferrandes, viticulturist, 17th September 2022 interview, Mueggen

This witness illustrates, on the one hand, what made the island of Pantelleria and its landscape so distinctive, and on the other, highlights the consequences due to the loss of the farming tradition and the reasons for the survival of local agriculture. In another part of the interview, Salvatore Ferrandes expressed a shared feeling of "mourning" regarding the state of Pantelleria agriculture, also emphasizing how the loss of farming activity can have negative impacts both on the hydrogeological setup and on the safeguarding of the landscape heritage and consequently on the island's tourist attractiveness.

«A un certo punto è arrivato anche il turismo (...) anziché coltivare la terra, faccio il muratore ho uno stipendio buono (molti sono andati a fare i pompieri, nell'amministrazione e così via) alla terra si è dedicata meno gente. (...) prima c'erano 4000 uomini che lavoravano (...) negli anni 70 ogni sei mesi lo stipendio aumentava di 1000 lire tu pagavi 5000 lire [chi lavora la terra] il turista pagava 6000 lire [il manovale]. (...) Persone che prima avevano solo la zappa si sono fatte l'impresa edile (...)»².

Giovanni Bonomo, farmer, 16th September 2022 interview, Bugeber

With this brief historical excursus, Giovanni Bonomo explains part of the process and the reasons that pushed the inhabitants of Pantelleria to abandon the land in favour of other activities, for example, the construction sector driven by a process of touristification that led to the transformation of old rural buildings into second homes and the construction of new buildings on land once used for agriculture.

«Non è che essere patrimonio UNESCO risolva i problemi. È la punteggiatura di un discorso, fa capire qualcosa di più, ma quanti di noi alla fine fanno qualcosa per

¹ «Agriculture in Pantelleria has been dead for a long time (...) the one that made the island unique. A sense that I don't have alone, I see some survivors (...) who have the same feeling: a sense of mourning. (...) Our frame of life (...) has been turned upside down. No one lives off agriculture. Don't be fooled if I make a bit of passito and someone else makes wine, they are grains, drops in the sea. (...) Those who cultivate some land do so because they are attached to it».

² «At some point, tourism also arrived (...) instead of cultivating the land, I became a builder, I have a good salary (many went to become firefighters, in administration and so on) fewer people dedicated themselves to the land. (...) before there were 4000 men working (...) in the 70s every six months the salary increased by 1000 lire you paid 5000 lire [those who worked the land] the tourist paid 6000 lire [the labourer]. (...) People who previously only had a hoe started their own construction business (...)».

questo patrimonio UNESCO? (...) Secondo me un patrimonio UNESCO per poter funzionare avrebbe bisogno degli ispettori sul posto. (...) Se gli uomini di 100 anni fa avessero avuto l'attrezzatura di oggi, l'isola sarebbe su Marte. (...) Oggi non stiamo lasciando nulla di tutto ciò che la gente va a visitare. La natura il suo percorso lo fa, deve essere l'uomo di conseguenza a starci dietro. (...) Siamo noi che non siamo più capaci di stare dietro alla natura»³.

Fabrizio Basile, viticulturist, 13th September 2022 interview, Bukkuram

The position expressed by Fabrizio Basile highlights the fragility of the Pantelleria territorial context and the need to support recognitions, such as UNESCO for the practice of bush-trained vine cultivation, with concrete initiatives capable of truly preserving Pantelleria tradition and its territory by providing support to those who still resist but do not have the adequate tools and especially the resources to cope with the abandonment of the land.

Based on the results of field surveys and interviews carried out in recent years, it is possible to underline the most significant transformations: 1) The Pantelleria territory, historically intensively cultivated, has been experiencing a process of abandonment of cultivated areas for decades; 2) the oral agricultural tradition struggles to be passed down, as does the ability to manage the related terraced heritage; 3) the process of touristification has led to the proliferation of second homes with consequent redefinition of the purposes of cultivated lands next to vacation homes; 4) tertiarisation and touristification have effectively replaced the island's predominantly agricultural vocation. In summary, it can be said that the inhabitants have shifted from being farmers to working in the tourism sector employed in seasonal activities related to hospitality and catering or to the management/maintenance of tourists' properties throughout the year; at the same time, the territory has been transformed to meet the needs of the tourism sector (Aimar, 2023). This resulted in the fact that agriculture is no longer the most important activity of Pantelleria (crucial to define its cultural landscape) but a hobby or niche activity primarily aimed at meeting the tourist demand for local typical products (Casano and Spotorno, 2023).

5. Tourism and territory: Pantelleria in the context of the Sicilian islands

As highlighted by the internal narratives presented above, the process of touristification has decisively contributed to recent territorial transformations in Pantelleria. This process is not exclusive to the Pantelleria reality but also concerns other Sicilian Island areas and can be measured using not only data on hotel and non-hotel demand and supply but also by relating these to socio-territorial variables, obtaining useful measures to assess levels of environmental pressure and establish how much the tourist phenomenon impacts fragile territories like small islands.

From the data on hotel and non-hotel tourist accommodation of 2022 it emerges that, in the small islands, non-hotel establishments prevail over hotels, with an incidence ranging from a maximum of 73.3% in Pantelleria to a minimum of 61.5% in the Pelagie

³ «Being a UNESCO heritage doesn't solve the problems. It's the punctuation of a speech, it makes something clearer, but how many of us ultimately do something for this UNESCO heritage? (...) In my opinion, a UNESCO heritage to function would need inspectors on site. (...) If the men of 100 years ago had today's equipment, the island would be on Mars. (...) Today we are not leaving anything of what people go to visit. Nature follows its course, man must consequently keep up with it. (...) We are no longer able to keep up with nature».

islands (Table 1). The situation is significantly different if we observe the incidence of bed places: except for Ustica, where almost three-quarters of beds fall in the non-hotel sector, in other cases the values are much lower, ranging between 40.6% in the Pelagie and 31.9% in the Eolie Islands (Table 1). Although their number is lower, hotels have a much higher accommodation capacity.

Islands	Structures					Bed places				
	Hotel	Non-hotel	Tot	% Hotel	% Non-hotel	Hotel	Non-hotel	Tot.	% Hotel	% Non-hotel
Egadi	24	63	87	27,6	72,4	2.382	1.274	3.656	65,2	34,8
Eolie	97	180	277	35,0	65,0	4.916	2.298	7.214	68,1	31,9
Pantelleria	12	33	45	26,7	73,3	1.154	557	1.711	67,4	32,6
Pelagie	42	67	109	38,5	61,5	1.432	977	2.409	59,4	40,6
Ustica	5	11	16	31,3	68,8	219	650	869	25,2	74,8

Table 1: Hotel, non-hotel and total accommodation supply in the Sicilian islands (2022).

Source: Own elaboration on ISTAT data, 2024.

By comparing the number of hotel and non-hotel beds to the surface of the studied areas (km²), the territorial density index is obtained (Table 2): the highest values are recorded in Ustica (105 beds per km²), followed by the Pelagie Islands (96) and the Egadi Islands (95). In the Eolie Islands, the data is more contained (62), but the lowest value corresponds to Pantelleria: 20 beds per km². Since lower values correspond to less pressure on the territory from tourist infrastructures, Pantelleria is in a privileged position. If the official bed count is added to the estimated number of beds in unoccupied houses – presumably used for tourism purposes – considering that each of these houses has three beds, the situation changes significantly, and the values become much higher. Nonetheless, Pantelleria still stands at a value considerably lower than the other islands, despite being generally high (189). In the Pelagie Islands, this value is 412 (Table 2).

Islands	a	B	C	d	E	f	g
	Beds	Surface Area (km ²)	Beds/Area (a/b)	Unoccupied Houses	Estimated Beds for Unoccupied Houses (d×3)	Total Beds	Beds/Area (f/b)
Egadi	3.656	38,32	95	2.687	8.061	11.717	306
Eolie	7.214	116,03	62	7.244	21.732	28.946	249
Pantelleria	1.711	84,53	20	4.766	14.298	16.009	189
Pelagie	2.409	25,22	96	2.657	7.971	10.380	412
Ustica	869	8,24	105	789	2.367	3.236	393

Table 2: The Territorial Density Index – TDI.

Source: Own elaboration on ISTAT data, 2024.

Focusing again on the accommodation offer and in particular on the average size of hotels and non-hotel establishments, it emerges that the largest ones are found in Ustica (54), followed by the Egadi Islands (42) and Pantelleria (38). The sizes recorded in the Eolie Islands (26) and the Pelagie Islands (22) are smaller. The calculation of the average size obtained by summing the data of official tourist accommodation (hotels and non-hotels) and the estimated values (number of structures and beds) of second homes is equal in all cases to 4, except in Pantelleria where the average size is one unit smaller, thus equal to three beds (Table 3).

Islands	A	B	C	d	E	F	g	H
	Structures	Beds	beds/structures (b/a)	Occupied Houses	Estimated Beds for Unoccupied Houses (dx3)	a+d	b+e	g/f
Egadi	87	3.656	42	2687	8061	2.774	11.717	4
Eolie	277	7.214	26	7244	21732	7.521	28.946	4
Pantelleria	45	1.711	38	4766	14298	4.811	16.009	3
Pelagie	109	2.409	22	2657	7971	2.766	10.380	4
Ustica	16	869	54	789	2367	805	3.236	4

Table 3: Average Size of Establishments - AS

Source: Own elaboration on ISTAT data, 2024.

The distribution of arrivals and overnights in the insular territories of Sicily is irregular and, in most cases, it follows a trend that respects the offer: Eolie, Egadi, and Pelagie register the highest number of total arrivals and overnights (Table 4).

Islands	Italians			Foreigners			Total		
	Arrivals	Over Nights	Av. Stay	Arrivals	Over nights	Av. Stay	Arrivals	Over nights	Av. Stay
Egadi	51.445	203.545	4,0	9.302	28.071	3,0	60.747	231.616	3,8
Eolie	80.592	286.137	3,6	55.903	166.502	3,0	136.495	452.639	3,3
Pantelleria	13.533	68.157	5,0	1.492	8.477	5,7	15.025	76.634	5,1
Pelagie	26.235	202.129	7,7	1.230	12.054	9,8	27.465	214.183	7,8
Ustica	3.125	8.964	2,9	521	1.918	3,7	3.646	10.882	3,0

Table 4: Arrivals, overnights and average stay (Italians, foreigners and total).

Source: Own elaboration on ISTAT data, 2024

From Figures 5 and 6, it can be seen that the incidence of foreign tourists is rather low in all the Sicilian islands except for Eolie, where this component stands at 41.0% in terms of arrivals and 36.8% in terms of presences. In Pantelleria and especially in the Pelagie Islands, foreign arrivals are more contained, amounting respectively to 9.9% and 4.5% in terms of arrivals and 11.1% and 5.6% in terms of presences.

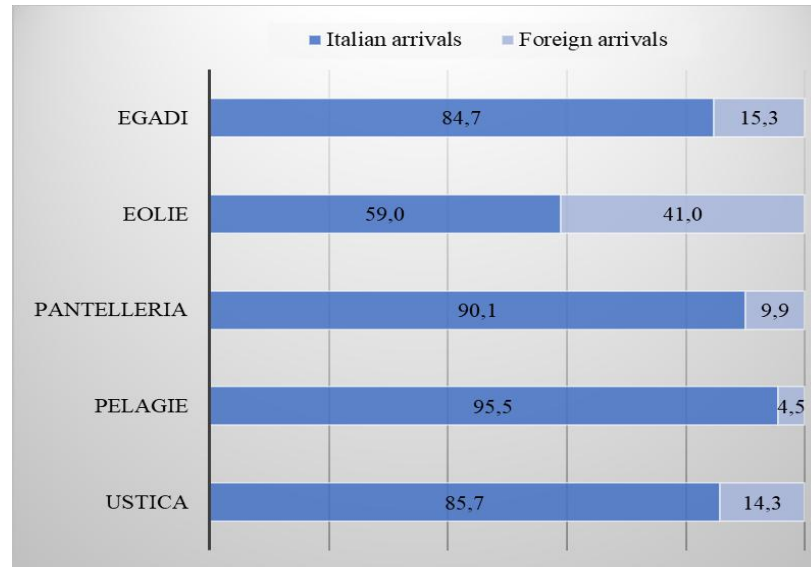


Figure 5: Percentage Incidence of Italian and Foreign Arrivals in 2022.

Source: Own elaboration on ISTAT data, 2024.

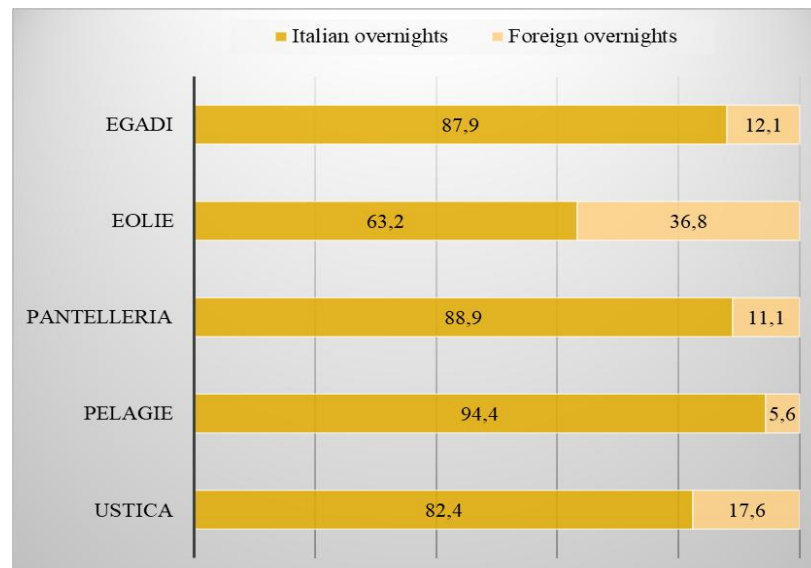


Figure 6: Percentage Incidence of Italian and Foreign Overnights in 2022.

Source: Own elaboration on ISTAT data, 2024.

In general, the foreign market is expandable, and it would be interesting to attract it during the shoulder seasons, when the movement is considerably more contained

although the climatic characteristics of the islands, particularly Pantelleria, would allow visits not only for beach-related reasons but also for outdoor or cultural activities. Additionally, these types of tourism are better suited to other times of the year, especially for outdoor activities which are strongly discouraged during the summer as high temperatures and humidity make them much more difficult. In the summer period, the territory is also less safe: the trail surfaces are less stable due to high humidity at high elevations due to fog and persistent drought phenomena. Another aspect to consider is that the pandemic has negatively impacted foreign movement, particularly from the percentage variation values between 2019 and 2022. In this period Pantelleria was the most affected area (arrivals: -23.7%; overnights: -43.1%) followed by the Eolie Islands (arrivals: -19.0%; overnights: -22.5%); in these cases, such phenomenon has reduced the number of tourists and even more significantly the overnight stays (Figures 7 and 8). Conversely, in Ustica the decrease mainly concerned overnights (-23.1%), while arrivals remained almost unchanged.

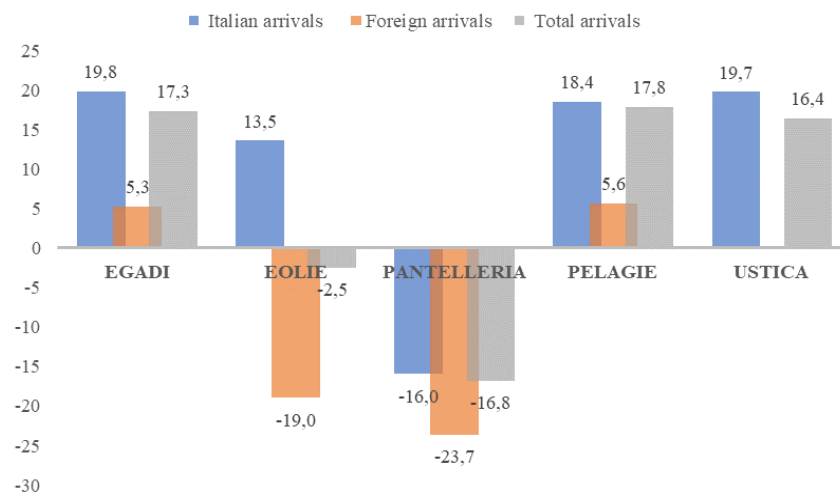


Figure 7: Percentage Difference of Italian, Foreign, and Total Arrivals between 2019 and 2022.

Source: Own elaboration on ISTAT data, 2024.

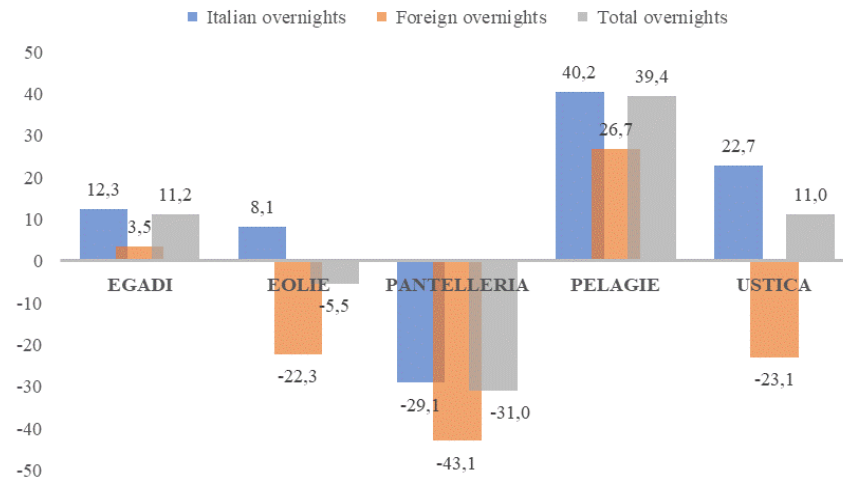


Figure 8: Percentage Difference of Italian, Foreign, and Total Overnights between 2019 and 2022

Source: Own elaboration on ISTAT data, 2024.

The national movement certainly suffered less from the Covid-19 crisis. Overall, Eolie have not yet returned to 2019 levels: arrivals in 2022 are 2.5% below, overnights 5.5%, but the Italian component is growing respectively by +13.5% and +8.1%.

The most complex situation is that of Pantelleria: the recovery to pre-pandemic values still seems very far away with negative forecasts also for 2023. The contraction of the movement has also affected the Italian demand component, with -16.0% for arrivals and -29.1% for overnights. The reduction in average tourist spending and the spike in airfares, as well as other means of transport during the Covid years, certainly impacted the recovery of movement to 2019 levels. Flights during the summer are fairly frequent but very expensive and some companies guarantee a limited number of flights per week. In other periods of the year, it is possible to reach the island by air exclusively with carriers that guarantee territorial continuity, therefore with connections from Palermo and Trapani.

Another aspect that makes tourism in Pantelleria challenging is certainly the need of a motorized vehicle for moving around the island. This necessity is essentially due to two factors; on the one hand, the large territorial surface and the location of some essential services only in Pantelleria town (petrol station, first aid, law enforcement), and on the other hand, a public transport network not sufficiently developed to allow for alternative forms of transportation. Pantelleria's notable landscape and cultural heritage is spread across the island, both on the coast and the inland. Moreover, the road system and geomorphological conformation make the use of alternative means such as bicycles difficult and potentially dangerous, especially due to narrow two-way roads and significant elevation changes. Consequently, those who arrive need to rent a vehicle, car⁴, or motorcycle, often at very high prices that vary depending on the period; furthermore, during the peak season, there may also be limitations in terms of

⁴ In Pantelleria, there are 91 cars for every 100 inhabitants, the highest figure among the smaller Italian islands, and the car fleet is among the oldest in Italy (Battistelli et al., 2024).

vehicle availability. Car rentals start from a minimum of 40 euros per day to over 100 euros.

Unlike other areas, Pantelleria is not easily reachable by sea; being far from the mainland, the sea journey is decidedly long and costly, not suitable for short trips (weekends) that do not allow for travel expenses to be amortized, but it remains the only possibility to have one's own means of transport on the island. The use of the hydrofoil, which significantly reduces the travel time compared to the ferry, is limited to the summer period and, unlike the ferry, requires renting a vehicle locally.

One last aspect that deserves attention concerns the pressure exerted on the Pantelleria context by the tourist flows that cross it (Campione et al. 2013). One of the most used metrics for this purpose is the Territorial Exploitation Index (TEI). This index measures the pressure on the environment by the resident population and tourists from the demand side. It relates to the impact of tourist arrivals and residents to the territorial surface. Its value can be considered as a direct measure of the stress that tourists and residents exert on the infrastructures present in the analyzed territories. Pantelleria is the island with the lowest TEI value among those considered, equal to 2.7. The highest value is recorded in the Egadi Islands (17.0), followed by the Pelagie Islands (13.5) and the Eolie Islands (13.1). In Ustica, it is equal to 6.0 (Table 5). Having a low pressure index, as in the case of Pantelleria, is certainly an advantage.

Islands	A	B	C	D
	Total population 2022	Total Surface Area (km ²)	Arrivals	(a+c)/b/100
Egadi	4.468	38,32	60.747	17,0
Eolie	15.021	116,03	136.495	13,1
Pantelleria	7.407	84,53	15.025	2,7
Pelagie	6.462	25,22	27.465	13,5
Ustica	1.307	8,24	3.646	6,0

Table 5: Territorial Exploitation Index – TEI.

Source: Own elaboration on ISTAT data, 2024.

There is definitely room to increase the flows in Pantelleria, but it must be done in a targeted way, aiming to increase movement throughout the year by strongly promoting the entire Pantelleria offer, as seen in the previous paragraphs, including history, culture, traditions, and outdoor activities.

6. Conclusions

In the last paragraph, we analyzed the tourist behaviour of the island of Pantelleria by comparing it to that of other Sicilian islands keeping in mind their different geographical, economic, and cultural contexts. Among the islands examined, Pantelleria is certainly the most complex one; a complexity that, at least potentially, provides greater possibilities for positioning in the tourism market not as a monocultural product. As we have seen, Pantelleria is characterized by the presence of a large protected area which, although in some cases perceived as a limitation, has contributed not only to preserving but also to enhancing the entire heritage of the island, making it more accessible. Having a range of accessible assets is certainly a *conditio sine qua non* for developing a tourism-cultural offer, but it is not enough. It is

indeed necessary to enhance and promote it adequately through a study of potential audiences and/or catchment areas, and certainly involving the local population, which represents the privileged vector for the transmission of information.

As we have seen, local productions are now very limited and certainly do not meet specific needs, but they can attract attention due to their cultural value. In this sense, considering the importance of the cultivation of bush-trained vines, an intangible asset protected by UNESCO, which shapes a unique landscape and certainly becomes an identity and distinctive element of the local landscape. In this case, the enhancement of a land product is not linked to consumption but to the characterization of the landscape. It represents a local specificity, an additional reason to visit the island even when the beach season is over. But Pantelleria is not just bush-trained vines; it also offers the possibility of integrating the offer with other thematic products such as those related to archaeology, strategic-military history, specific naturalistic aspects, and rural history. All elements that lend themselves to the development of thematic routes made, for example, of trekking, food, historical heritage, etc. It is an offer capable of inducing unique experiences, able to stimulate even niche tourism, especially from abroad (a component currently greatly undersized), which, however, must be associated with high economic returns. Off-season flows promotion also passes through this. Activating multi-thematic routes capable of "systematizing" Pantelleria's cultural and landscape richness can be the decisive key for both off-season tourism and the enhancement of the territory as a whole, contributing to local economic development and the preservation of the landscape.

Sustainability must also be achieved from the point of view of water resources management (drinking and not-drinking water) and internal mobility organisation by developing more efficient public transportation services. It is hoped that in the medium to long term this situation will also be resolved; renewing the vehicle fleet or in any case the local transportation methods is not simple but is certainly another objectives to pursue. In recent years such elements have been increasingly taken into consideration by local institutions which have started to operate in close synergy with each other; the Municipality and the Park have common objectives, where enjoyment and safeguarding coexist and lead to the sustainable use of resources in order to ensure a sound development of the island.

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