

Profile of Sustainability in some Mediterranean tourism destinations



Case study of Cabras in Sardinia (Italy)

Lead Author: Alessio Satta

Authors: Manuela Puddu, Barbara Pintus

Final version

The study is financed under the FEMIP Trust Fund. This Fund, which was established in 2004 and has been financed - to date - by 15 EU member States and the European Commission, is intended to support the development of the private sector via the financing of studies and technical assistance measures and the provision of private equity.



This study also benefited from the support of:



The analysis and conclusions of this report do not necessarily reflect the opinion of the European Investment Bank, nor of the Agencia Española de Cooperación para el Desarrollo, nor of the Agence Française de Développement.

CONTENTS

| | |
|--|-----------|
| ABBREVIATIONS LIST | 3 |
| I. DESCRIPTION OF THE DESTINATION: THE NATIONAL AND LOCAL CONTEXTS..... | 4 |
| 1. Introduction..... | 4 |
| 2. The destination of Cabras | 4 |
| 2.1. Nature – Environment | 5 |
| 2.2. Culture - Events | 6 |
| 2.3. Food-and-wine | 6 |
| II. TOURISM AS A DRIVING FORCE | 7 |
| 1. Introduction..... | 7 |
| 2. The sustainable management and tourism strategy | 7 |
| 2.1. The MPA role..... | 7 |
| 3. The tourism data | 9 |
| 3.1. The offer..... | 9 |
| 3.2. Information and Communication..... | 10 |
| 3.3. The demand | 11 |
| 3.4. Arrivals and overnight stays..... | 11 |
| 3.5. The occupancy rate..... | 14 |
| 3.6. The average stay period | 15 |
| 3.7. Tourist pressure | 15 |
| III. RESULTS AND PERFORMANCE OF TOURISM..... | 16 |
| 1. Introduction..... | 16 |
| 2. Economy | 16 |
| 2.1. Tourist expenditure | 16 |
| 2.2. How do tourists spend their money during their permanence? | 16 |
| 2.3. Transport expenditure | 17 |
| 3. Society | 17 |
| 3.1. Tourism employment..... | 17 |
| 4. Environment | 17 |
| 4.1. Energy consumption..... | 18 |
| 4.2. Solid wastes..... | 19 |
| 4.3. Water consumption..... | 19 |
| 4.4. Urbanization and land use changes | 19 |
| IV. IMPACTS OF TOURISM ON THE DESTINATION..... | 21 |
| 1. Introduction..... | 21 |
| 2. Economy | 21 |
| 2.1. Gross Domestic Product..... | 21 |
| 3. Society | 21 |
| 3.1. Employment of the main economic sectors | 22 |
| 3.2. Population evolution and structure | 22 |
| 3.3. Social cohesion | 23 |
| 4. Environment | 24 |

| | |
|-------------------------------|----|
| 4.1. Water availability | 24 |
| 4.2. Sea water..... | 24 |
| 4.3. Soil..... | 24 |

V. POLICY MEASURES TO IMPROVE SUSTAINABILITY OF THE DESTINATION 26

| | |
|--|----|
| 1. Introduction..... | 26 |
| 2. Policy measures at national level for environmental sustainability..... | 26 |
| 3. Policy measures at regional and local level..... | 26 |
| 4. Protected areas | 28 |
| 5. Environmental quality systems | 29 |
| 6. Treatment of solid wastes | 30 |

VI. SYSTEMIC ANALYSIS OF THE TOURISM DESTINATION.....31

| | |
|--|----|
| 1. The role of external actors: tourists | 31 |
| 1.1. Tourists survey | 31 |
| 1.2. Transports | 34 |
| 1.3. How do tourists go around Cabras?..... | 35 |
| 2. The role of internal actors: businesses | 36 |
| 2.1. Tourism businesses survey..... | 36 |
| 3. SWOT Analysis and conclusions..... | 36 |

BIBLIOGRAPHY 38

SOURCES 38

TABLE OF ILLUSTRATIONS..... 39

Abbreviations list

RAS: Regione Autonoma della Sardegna (Autonomous Region of Sardinia)

ISTAT: Istituto Nazionale di Statistica (National Institute of Statistics)

CRENoS: Centro Ricerche Economiche Nord Sud (Centre For North South Economic Research)

I. Description of the destination: the national and local contexts

1. Introduction

Within the framework of the Blue Plan project regarding Mediterranean sustainable destinations, the Region of Sardinia has been invited to participate. The municipalities of Cabras and Castelsardo have been selected as representative pilot destinations in the field of tourism offer in Sardinia. Furthermore, Castelsardo and Cabras are part of the CAMP – Italy project promoted by PAP/RAC and coordinated at regional level by the “Conservatoria delle Coste” regional agency.

The main objective within the Blue Plan research project is to define the so-called “Tourism Sustainability Profile” through the evaluation of the economic, ecological and social footprint assessment of tourism in the selected areas.

The general aim of the Blue Plan is firstly to identify how tourism benefits from local populations, directly and indirectly, in the respect of the local socio-ecosystem. Secondly, it aims at collecting the most successful practices around the Mediterranean coastal destinations to use them as models to be replied in other destinations. With this purpose, the two destinations have been studied and their sustainability performances assessed.

2. The destination of Cabras

The Municipality of Cabras and the Marine Protected Area (MPA) “Sinis Peninsula - Mal di Ventre Isle” are situated in the central-western coast of Sardinia (Italy), about 6 km from Oristano, chief town of the Province.

Thanks to the diversity and beauty of its natural landscapes, as well as to the richness of cultural evidence, the city appears as a unique land within the Sardinian and western Mediterranean contexts. Composed by a “terrestrial water” environment of a high ecologic value, it attracted the interest of institutions and scientific communities since the 1970s.

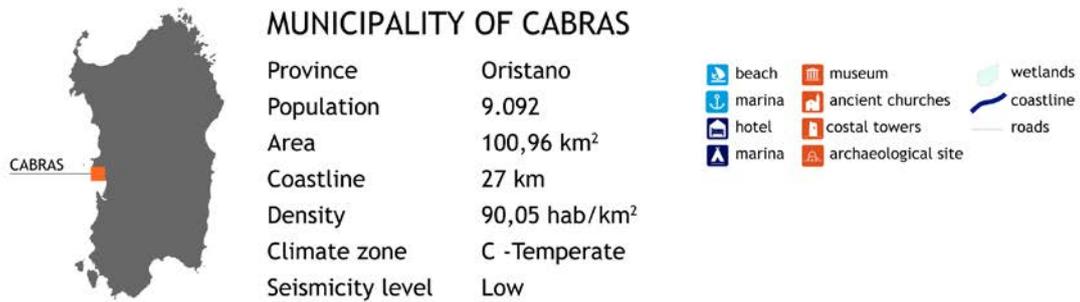
The area has been continuously inhabited since the 5th millennium B.C., as testify the ruins of the Neolithic village of Cuccuru is Arrius, located near the overflow canal of the pond of Cabras. The numerous nuraghi, which dominate the low hills like sentinels, give testimony to the territorial control during the Bronze and Iron ages. The ancient town of Tharros is the biggest archaeological site of the area.

The landscape, that pleasantly adds lagoons, coastlines, hills and monuments of rare beauty, is the distinctive mark of the territories of this island’s section.

This territory has several characteristics of great interest that may be synthetically grouped in three fields:

- Nature - Environment
- Culture - Events
- Food-and-wine

Figure 1 – Municipality of Cabras



Municipality of Cabras - Graphic elaboration: authors
 Source: Municipality of Cabras – Graphic elaboration: authors

2.1. Nature - Environment

The climate conditions are particularly favourable for developing a “long season” tourism offer even though, till nowadays, the tourism flow is mainly concentrated in August, as we will observe in the next paragraphs.

The Marine Protected Area “Peninsula of the Sinis – Island of Mal di Ventre”, covering 250 sq km, includes:

- **35 km of uncontaminated sandy coastline**, with rare quartz beaches like Is Arutas, Mari Ermi and Maimoni. These natural resources represent so far the primary motivation for tourism seasonal flows;
- **Small Islands System**, composed by the Island of Mal di Ventre and the Catalano Rock, are key attraction points for nautical and sea sport tourism (pleasure boating, sailing, chartering, diving, etc.);
- Natural heritage of National and International importance (about 3.000 hectares of wetlands, five **Sites of Community Interest** (SIC), three Special Protection Zones (ZPS) entrusted with the protection of

typical biodiversity of marine-coastal environments and transition areas) for the development of tourism forms linked to bird-watching, hill-walking, etc. Among them: Mistras Lagoon, San Giovanni di Sinis, Island of Mal di Ventre, Catalano Rock and Cabras Lagoon.

The Autonomous Region of Sardinia approved the Management Plans of the above-mentioned SIC. The Naturalistic Oasis of Seu (former WWF Oasis, now Natural Municipal Park, in accordance with the municipal development plan in force), a suitable site for environmental educational activities, is functional to the final confirmation as an educational/school group tourism site.

2.2. Culture - Events

The ancient roman town of “Tharros”, one of the most visited archaeological site in Sardinia, was founded by the Phoenicians around the 8th century B.C., near the narrow promontory of Capo San Marco. In Cabras there is also a relevant architectural heritage: the Byzantine Church of San Giovanni di Sinis, Hypogeum of San Salvatore, pre-Nuragic sites of “Cuccuru Is Arrius” and “Monte e’ Prama”, the Archaeological Museum, Pontis Fishponds and the Coastal Tower System.

Many events are linked to the religion of the region, such as the barefoot race (Corsa degli Scalzi) and the Festival of San Salvatore, recognized by the Region of Sardinia as one of the Great Events of the Island. A number of fairs and town festivals are regularly and annually organised, with an interesting tourism feedback in terms of participation and active involvement. Some of the most successful events are here listed: “Sagra della Bottarga”, “Sagra del Muggine Arrosto e della Vernaccia”, “Sagra del Melone del Sinis”, the events “Notti di Tharros”, “Note in Laguna”, “L’Area Marina è in festa”, the show “Pane, olio in frantoio” and “Cantine Aperte”.

The study area hosts several sport events like the “Motoraduno del Sinis”, “Granfondo del Sinis”, the mini-marathon “Quattro passi nel Sinis” and the “Traversata a nuoto nel Golfo di Oristano”.

Cabras has a strong know-how in the field of artistic craftsmanship linked to the traditional local production and fishing. One of the local products is the “Fassoni”, a typical lagoon boat.

2.3. Food-and-wine

Cultivation and production techniques related to the wine heritage, unique in the whole Province, can be considered one of the key features of Cabras economy. Mainly known for the production of Vernaccia and Nieddera wines, this sector follows a new tourist trend (wine tourism), representing an interesting point of departure for tours focused onto the discovery of wineries and wines in the territories of Cabras. Two prestigious companies “Attilio Contini” and “Francesco Atzori & C.”, among the most ancient and renowned wineries, have their headquarters in Cabras.

Wide range of ancient recipes and tastes has made the village and its territory a reference point for enthusiasts of fine cuisine. The art of fish processing and storing has always characterised the territory of Cabras in collective imagination. Bottarga, renamed as “The Gold of Cabras”, represents the most significant instance of conservation of far-away tastes, belonging to a century-old fishermen’s tradition. Olive oil production of excellence, at present, stands as a sector undergoing a strong growth, promoted and supported by the event “Pane, olio in frantoio”, attracting a wide audience every year. Two major producers are settled in Cabras: “Francesco Atzori & C.” and “La Casa dell’Oliva” by Giuseppe Piredda. In addition to a number of small oil manufacturers, there are also a few households that have contributed to qualify Cabras as an “Olive oil Town”.

Natural environment resources, along with archaeological and historical/cultural values witnessing the millenary presence of human being in Sinis, have therefore fostered the development of culture and traditions strongly inclined to hospitality and tourist reception. A natural vocation for tourism, indeed, resulting from this extraordinary concentration of resources, represents a valuable asset for its territory, to be valorised and promoted with increasing efforts.

II. Tourism as a driving force

1. Introduction

The tourism sector acts as a driving force for economic development of Mediterranean coastal destinations by contributing to the following primary objectives: the generation of income, employment opportunities and acquiring foreign exchange earnings. Tourism expenditures and the export related goods and services generate income for the host economy and in turn kindle the investment required to finance growth in other economic sectors. Thus, national and local governments, like Cabras, can earn their revenue by imposing tax on the prime products and services demanded by the tourists. To reach these objectives and to maximize local socio-economical revenues, without depleting natural resources, local governance agents must define and implement proper and effective sustainable development strategies.

2. The sustainable management and tourism strategy

Thanks to a new “governance” approach started recently by the Municipality of Cabras, with a specific project of the Ministry of the Environment called “Management Programmes”, the city is achieving the following purposes:

- Environmental Protection;
- Protection and valorisation of resources of the area;
- Promotion and dissemination of knowledge of environments and culture of the area;
- Educational programmes;
- Creation of study/scientific research programmes;
- Promotion of a socio-economical development compatible with the naturalistic/landscape importance of the area.

These actions encourage traditional activities already existing in the area.

2.1. The MPA role

Thanks to the MPA, increasingly acting as a “governance” tool for implementing sustainable development policies, Cabras is strongly committed in planning an innovative and sustainable management of the natural and cultural heritage of the environment. The Environmental management effort is particularly focused in keeping quality standards unaltered and, wherever possible, to improve them (image of the location with regard to the perception of factors such as propriety and atmosphere, hospitality and friendliness, services, care for details, etc.).

Under this perspective, different actions have been implemented to renew awareness and participation in local and tourist community and in the sustainable management of life quality (waste cycle, energy saving, visual impact, greenery care, mobility and traffic regulation services, services for disadvantaged social groups...).

In this framework “tourism offer” is developed and managed in order to ensure social, cultural and environmental sustainability. Since 2004, the Municipality of Cabras, together with the MPA and the local operators, has started a participated tourist planning process called “Sardinia - Coast of Sinis”, a Local System for an integrated and coordinated promotion of the local tourism offer.

This process, according to a systematic approach, has allowed the progressive implementation of integrated and sustainable development programs and actions. Funded entirely by the Municipality of Cabras, with the resources of the Ministry of Environment and the Region of Sardinia, the project aims at valorising the natural and socio-economical potentials of the area under a sustainable tourism perspective.

The outlined strategy consists in activating a participated development process for the definition of a global tourist product, resulting from the interaction among the institutional, socio-economical and productive fields and the tourist sector able to create one of the worthiest connection system ranking within the provincial, regional and Mediterranean contexts.

With respect to the purpose of implementing this strategy, the MPA has planned the development and promotion of the following tourism products:

- **Nature-Environment**, through the improvement of management performances of the MPA, represented by the Municipality of Cabras as its Managing Authority;
- **Culture-Archaeology**, through the “Cooperativa Penisola del Sinis”, a private company founded in 1983 that aims to valorise and promote the archaeological and natural heritage;
- **Food-and-wine**, through the “Sistema Agricolo Locale - Sal Sinis”, a private consortium of 50 farmers, and the “Consorzio Pontis”, a consortium of 11 fishermen cooperatives that manage the fisheries’ industry.

Such a system is configured as a network of tourist operators and suppliers of quality reception/territory enjoyment services, aimed at:

- Developing a more efficient, mutual trust relation between these tourist operators, as well as between these latter and the public authority;
- Strengthening local offer system to create an integrated tourist line, eliciting new economic relation systems, in order to improve the quality of tourist product, also through standardization processes, while enhancing a few features such as customization, guest care, authenticity and flexibility characterising local offer;
- Qualifying and innovating the offer, to be recognized as a welcoming tourist destination for the tourist markets.

The involvement of trading operators, considered as a necessary step to start an innovative planning and a sustainable management of the territory, aims to work out a tourist development model, attentive and caring for the natural and cultural environment. This strategy is focused on the preservation and re-evaluation of the identity and the hospitality features of Cabras community, along with the valorisation of the most attractive components of the territory: nature, archaeology and history, culture and folklore, local craftsmanship and gastronomy.

Through the years, a variety of projects and associative networks has been financed to promote and create valorisation actions and integrated tourist itineraries on food-and-wine resources, craftsmanship development and local productions.

A direct commitment of small enterprises has been developed in the organization of initiatives related to the valorisation of local heritage. Among the several small companies representing the specificity of the territory in wine, oil, craft and fishery sector, Cabras creates specific communication and promotion projects in order to make the territory more attractive, while maintaining the landscape integrity and enhancing local tourist development. For example, an important experience involved farmers: with them it has being constituted a Local Farming System by the subscription of a specific Agreement Protocol, signed by forty farmers, for the valorisation and promotion of agricultural productions. With traders, on the other hand, the Municipality promoted the constitution of the Natural Trade Centre “In Laguna”. This association, including a few trading, artisan and service businesses, carries out integrated activities, according to a common purpose: the valorisation and promotion of a homogeneous trading space within the urban area, in harmony with the cultural, social and architectural background, in view of the economic-social recovery of old centres.

Regarding the social sphere, the Municipality improved actions aimed to change a few generalized populations’ habits to address them towards the achievement of a sustainable destination configuration, compatible with the local cultural identity and conducted in the form of seminars, meetings and/or awareness-raising interventions.

Further information regarding the MPA 'Penisola del Sinis - Isola di Mal di Ventre' will be found on chapter 5.

3. The tourism data

3.1. The offer

Cabras accommodations offer is essentially based on a spontaneous enterprise made by B&B and farm stays model. At present, there are only 5 hotels that, due to their small size, can accommodate around 150 tourists. This is an enormous limit for the tourism growth in the study area. Tourist groups arriving in the peninsula cannot stay in Cabras because the tourist offer lacks the possibility to guest them in just one accommodation. The bad consequence for the economy of the area is that most of tourists turn out as excursionists, travellers visiting the area attracted by the 3 main things sun-beach-sea or by archaeological site of Tharros and, after the visit, they move towards other Sardinian zones to stay in. This phenomenon can be called "Transit excursion"¹ and indicates a short visit by a subject interested in tourism circulation who does not stay overnight in the area. Total Cabras sleeping accommodations are 1.761, considering that we cannot estimate the number of rental houses.

Table 1 – Accommodation capacity, 2010

| | Hotel | Camping | Farm stay | Bed and Breakfast | Residence | Total |
|----------------------|-------|---------|-----------|-------------------|-----------|-------|
| Number of structures | 5 | 6 | 15 | 44 | 2 | 72 |
| Number of beds | 158 | 785 | 192 | 250 | 376 | 1.736 |

Source: RAS

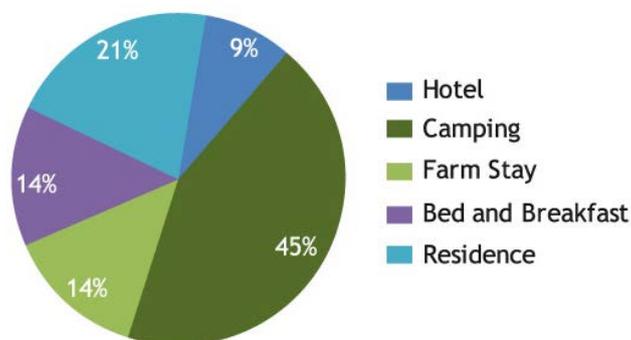
Among no-hotels accommodations, there are 44 Bed and Breakfasts, which had a strong development in the territory starting from 2001.

Nowadays B&Bs in the territory have a sleeping accommodation capacity of 250 people, which is 14% of the study area.

Farm stays are numerous as well and they cover a consistent percentage in the territory hospitality.

Besides, they create a strong synergy between agriculture sector and catering. In 2008 they were 17 with 220 accommodation beds, while today Cabras has 15 farm stays with 192 accommodation beds.

Figure 2 – Accommodation capacity, 2010



Source: RAS – Graphic elaboration: authors

¹ Innocenti P. (2007), Geografia del turismo, Carocci, 3rd Edition, 41-42

As we can see from the Figure 2, the highest percentage regarding the accommodation capacity is related to the camping Is Arutas, the only camping site in Cabras that with its 660 sleeping accommodations represents 45% of the total.

3.2. Information and Communication

In the last years, the MPA has worked to build up a network of Visiting Centres and Information Points, fixed or mobile, in order to give customers a suitable informative service, tourist reception, publication, awareness and educational guidance.

Apart from MPA head office (based in via Tharros n° 225 c/o the Centro Polifunzionale), in Cabras there are the following structures:

- **Tourist information centre:** it is based in Corso Italia n° 108 (Cabras). It is a tourists' reception point and in provides tourist information and informative brochures about the territory and its resources.
- **S. Giovanni di Sinis visit centre:** this building is both information and reception point and the MPA off-centre. Inside, tourists can find a multimedia aquarium that, with a multiscreen technology, let visitors have a virtual trip in the undersea world to discover sea bottoms and all the living species found in the Protected Marine Area Sea.
- **S. Giovanni di Sinis observatory:** it is a “dome-shape” building with sophisticated scientific instruments for acquiring and analyzing meteorological data. Inside there is an educational section that let shows visitors how the meteorological station and the aeolian and solar energy work. Besides, there is a reconstruction of the Peninsula sea bottoms and the limits of the Protected Marine Area, indicating the areas with a different protection ranking (A, B, C zones). Finally, there are reconstructions of 4 territory beaches (San Giovanni, Mare Morto, Funtana Meiga and Is Arutas), which let people understand the geological differences that make this land unique.
- Next to the “Dome” building, there are baths where the marine turtles “Caretta Caretta” are recovered. This building is the coordination centre of the network for wild marine fauna recovery.
- **“Centro Visite e d’Esperienze di Seu”:** located in the natural oasis of Seu, close to the southern part of the MPA, it is a centre mostly dedicated to environmental education. Over there, it is possible to develop many educational projects using recreational and practice ways. Activities can be done both outdoors and in the internal laboratory. There is a small library and a multimedia hall where projections can be watched.
- **“Casa del Parco” hostel, Funtana Meiga:** the building, still in progress, should provide reception service to tourists, scholars, school trips and sustainable sport lovers flux. There are 16 rooms for a maximum of 42 accommodation beds, a common space and a breakfast hall.

Informative copies are regularly updated and distributed in a network of information points made up by those above mentioned. Apart from established points, in summer season mobile information points are prepared and this year, for the first time, some Cabras young people worked as “Informaspiaggia”. These young workers give information and make tourists more aware of sustainability through the distribution of informative paper material.

Cabras is a destination with a low tourist density: according to the Province of Oristano's Tourism Department, the number of beds (except for farm stays) amounted to 1.174 in December 2009. With a more structured approach compared to the past, a strategic tourist-cultural offer has been worked out by “Sardinia - Coast of Sinis”: an exclusive tourist offer, consisting in the interaction of a number of naturalistic, historic-archaeological, cultural and production components able to ensure the protection of different local traditions.

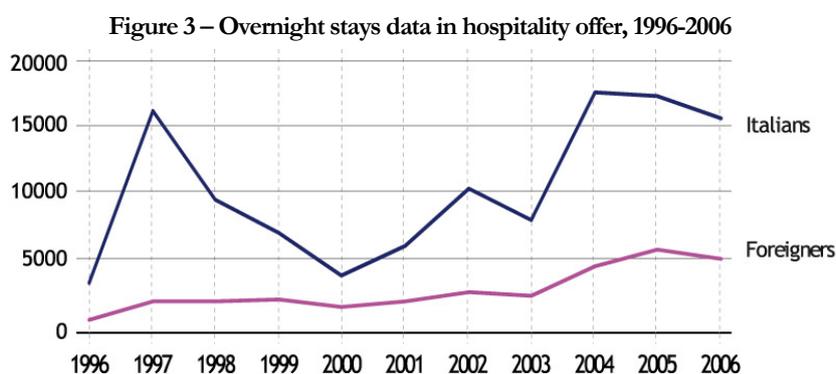
The Municipality of Cabras represents itself an integrated system, able to offer unique and wide-ranging tourist experiences, either in the wild or aimed at the discovery of historic boroughs and architectural heritage, food-and-wine itineraries, traditions and handicrafts, as well as educational and sport activities.

In addition, the MPA enhances its unique landscapes with a new display of colors capable to amaze and fascinate anyone in every season.

The extraordinary touristic attraction force that results, together with the great politic efforts to improve sustainability and the active involvement of local community and trade operators, obtained the reward of the Council of Ministers Presidency, which through the Department for Development and Competitiveness of Tourism designed Cabras as a “European Destinations of Excellence” within the frame of the EDEN III Project, officially awarded in October 2009, in Brussels, at the European Tourism Forum.

3.3. The demand

Quantitatively, according to official statistics concerning 1996-2006 decade, tourism demand in Cabras had an increase of 83,68%. Considering the reduced hospitality offer, this is a very good result. The increase of the demand has been registered starting from 1997 (+14.661 overnight stays comparing to 1996), then a considerable decrease in 2000 and subsequent rise and fall until a maximum top in 2005 with 23.047 overnight stays and 6.599 arrivals.



Source: Municipality of Cabras – Graphic elaboration: authors

Trend of Italian demand results very ambiguous. After a dramatic reduction of overnights from 1997 to 2000, the peak of 1997 is reached again in 2004. It is difficult to explain the “exploit” of 1997, the most plausible reason is that Sinis destination have been discovered in late 90’s and after the “surprise effect” tourism has not been fidelized. In the early 2000’s, a proper tourism strategy has been put into place and the results are evident.

On the other side, foreigners’ demand follows a more regular trend. Foreigners visiting Cabras usually look for pristine places, in which they can be in touch with local situation with a particular interest in environment and culture.

This is the reason why natural parks and reserves are increasingly becoming the most chosen destination for people who want to find natural and cultural experiences. Sinis peninsula is the ideal destination for this new trend of tourism thanks to its environmental and natural resources: Protected Marine Area, lagoons (SIC – Sites of Community Importance), Tharros, food and wine, etc. Regarding the flux origins, it comes out that more than 2/3 of overnight stays (75,94%) refers to domestic customers. Anyway, it would be better to point out that foreigner arrivals have increased of 95% from 1996 up to today.

3.4. Arrivals and overnight stays

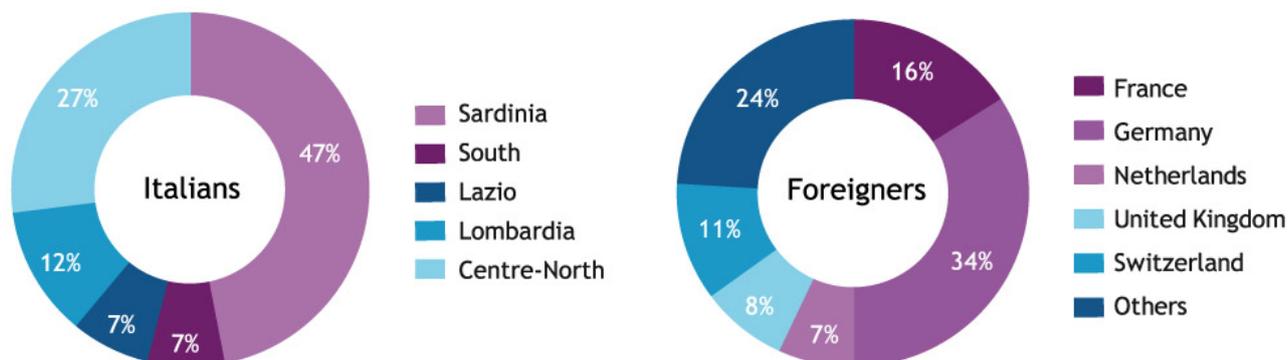
Table 2 – Tourists fluxes, 2006

| | Italians | | Foreigners | | Total | |
|----------------------|----------|-----------------|------------|-----------------|----------|-----------------|
| | Arrivals | Overnight stays | Arrivals | Overnight stays | Arrivals | Overnight stays |
| Cabras | 5.100 | 15.718 | 2.394 | 4.980 | 7.494 | 20.698 |
| Province of Oristano | 76.400 | 268.322 | 28.918 | 91.028 | 105.318 | 359.350 |

Source: Municipality of Cabras

In 2006, the Province of Oristano was visited by Italian guests mostly from Sardinia (47%), while only 7% came from South Italy. The rest of the tourists came from Lombardia (9.054), Lazio (5.329), Piemonte (4.369), Veneto (3.950) and North-central regions.

Figure 4 – Arrivals in Province of Oristano, 2006

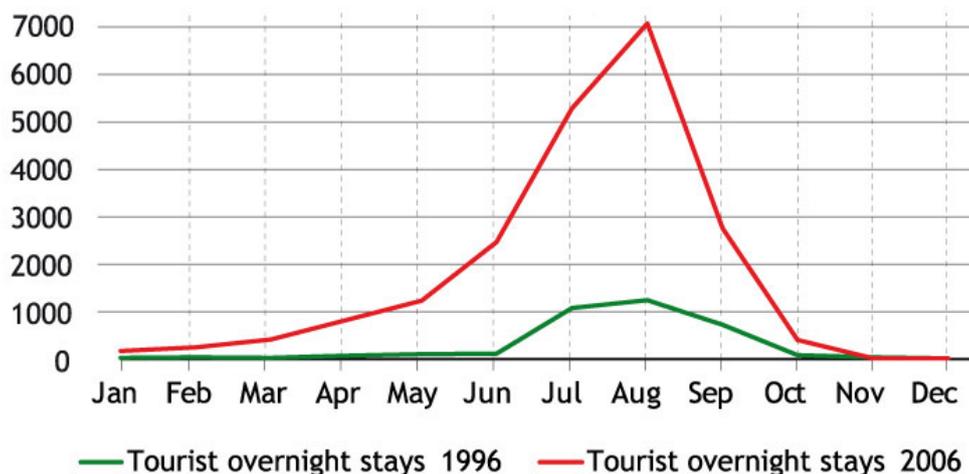


Source: Municipality of Cabras – Graphic elaboration: authors

For customers coming from abroad, accommodations have positive results with 2.394 arrivals and 4.980 overnight stays. An important role is represented by German, tourists who are 35% of tourists coming from abroad (9.863 arrivals), followed by those coming from France (4.592), Switzerland and Liechtenstein (2.996), United Kingdom (2.403) and Netherlands (1.974). Just a small percentage arrives from Extra European countries (5%), of which more than the third part comes from United States (556).

In spite of the remarkable increase of the tourist fluxes, it can be noticed a negative result regarding seasonality. One of the causes is the marked preponderance of a bathing tourism just linked to the three summer months.

Figure 5 – Tourist overnight stays, 1996 and 2006



Source: RAS – Graphic elaboration: authors

In the period between June and September, there is the highest percentage of overnight stays (85%) and the total arrivals (75%), with a maximum peak in August with 7.052 overnight stays (34%).

Compared to Italians, foreigners prefer May and September, in which the highest number of arrivals (40% in the total two months) and overnight stays (34%) is concentrated.

Figure 6 – Overnight stays seasonality, 2006



Source: RAS – Graphic elaboration: authors

Curves of the chart stands out immediately the strong seasonality of the Italian flow that focuses primarily in August. It would seem that the flow of foreigners is more balanced, unlike the Italians who are concentrated in a single month, but in reality this is not true. Looking at the chart, we see that foreigners are a small number compared to Italians, for this reason the seasonality appears less evident. Foreigners' seasonality is concentrated in the period May-September. Foreign tourists seem to prefer the less crowded periods and less hot (especially as regards arrivals), more suitable for a quiet holiday although we must remember that even in July and August the proportion of admissions is still significant (20% and 15% respectively).

Figure 7 – Tourists arrival seasonality, 2006

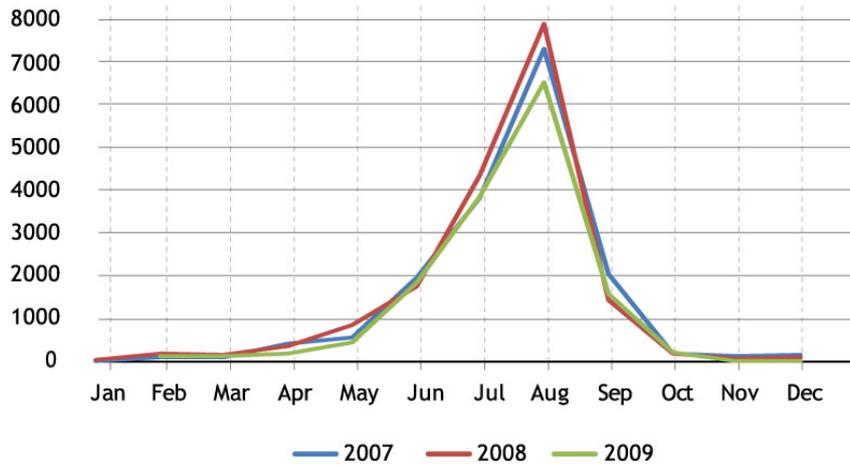


Source: RAS – Graphic elaboration: authors

Destination attractiveness is often evaluated through the average length of stay of tourists. It should be pointed out that the Peninsula is a destination visited by tourists generally coming from the north or south of Sardinia (main accesses gates to the island for the presence of ports and airports). Consequently, tourists visiting Cabras, in most cases, have already visited other places in Sardinia and they complete here their holidays spending just few days. Analyzing the average length of stay, we can notice that there was a significant decrease from 1996 to 2006, from an average of 4,50 to 2,76 days. This could be a critical element for the accommodation sector in Cabras, even if we must consider that official statistics didn't take into account permanence in second homes. In spite of the arrivals increase, tourists (especially foreigners) prefer to stay just few days in Cabras in order to be able to visit other destinations in Sardinia. Even this change is due to changes in the way of conceiving the holiday.

From 2007 to 2009, Cabras attracted many Italian people who represent the highest percentage in overnight stays. Domestic travel is still more active in high season, when rates are highest.

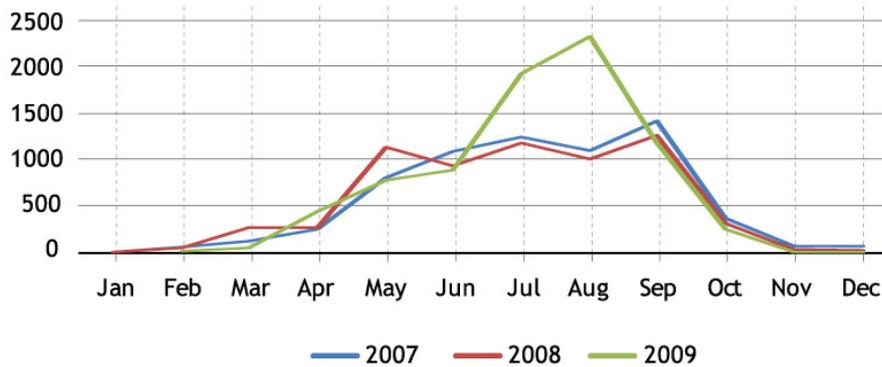
Figure 8 – Domestic overnight stays in Cabras



Source: Municipality of Cabras – Graphic elaboration: authors

The strong seasonality of Italian tourists is more balanced for foreigners who seem to prefer the less crowded and warm periods. Nevertheless, in July and August 2009 foreigners overnight rate is still significant.

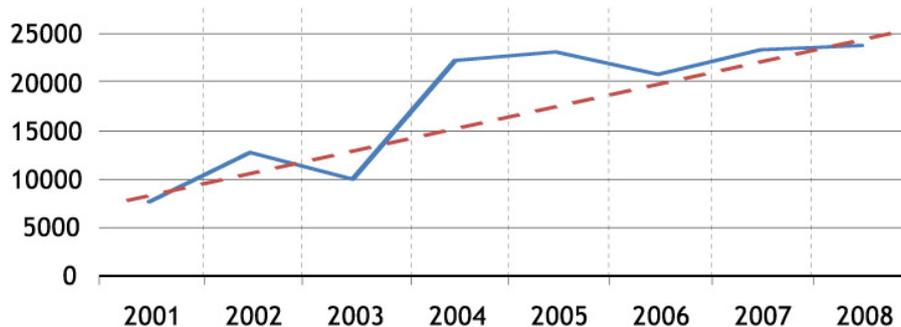
Figure 9 – Foreign overnight stays in Cabras



Source: Municipality of Cabras – Graphic elaboration: authors

3.5. The occupancy rate

Figure 10 – Occupancy rate in Cabras



Source: Municipality of Cabras – Graphic elaboration: authors

Tourism flows begin to rise considerably since 2003. In 2004 they started spending more than 20.000 nights per year. They are mainly national (around 75%) coming for 48% from the rest of Sardinia; their average stay is 3,45 days while foreigners (mainly Germans and French) are staying only for 2,14 days.

3.6. The average stay period

Table 3 – Average stay period, 1996 – 2006

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|
| Italians | 4,85 | 4,8 | 2,71 | 2,77 | 2,9 | 2,82 | 2,84 | 2,52 | 3,06 | 3,93 | 3,08 |
| Foreigners | 2,56 | 3 | 4,42 | 2,69 | 2,53 | 1,92 | 2,03 | 2,04 | 2,06 | 2,6 | 2,08 |
| Average stay period | 4,5 | 4,54 | 2,66 | 2,75 | 2,8 | 2,56 | 2,64 | 2,4 | 2,8 | 3,49 | 2,76 |

Source: Municipality of Cabras

This time, deficit indicates also a lack of organization of supply (services), in fact, where tourism is less qualified the average stay of tourists' drops.

In 2008, tourist arrivals in Cabras territory were 7.978, with a number of presences equal to 23.624, determining an average stay equal to 3 days.

Latest available data refer to 31.10.2008, when 8.088 arrivals and 22.602 presences were registered, for an average presence equal to 3 days. These data are slightly underestimated, as they do not take into account farm stay lodgings that, in fact, represent a considerable share of the territory reception facilities, contributing to characterize the offer and creating a significant synergy with the agricultural sector and the restaurant facilities.

At present, data regarding 31.12.2008 are still in progress, while data referring to 31.10.2009 are already available.

The composition of tourists by nationality highlights a prevalence of Italian tourists (64% of arrivals and 72% of presences) over the foreign component.

Regarding the Province of Oristano, the share of tourist flows heading for Cabras represents only 10% of arrivals and 8% of presences.

Local tourist flow, mainly formed by Italian tourists, is mostly concentrated during the summer months, especially in July and August. It is a mainly seaside tourism with an average stay around 3-4 days.

This typology of users prefers reception facilities allowing to enjoy a period of absolute relax and rest. Foreign tourists, on the other hand, tend to show a curiosity for the exploration of the territory, organizing themselves autonomously to visit places and centres of cultural and/or naturalistic interest. This is a need that foreign intermediaries – and only recently, Italian operators too – have been able to seize and valorise, offering an opportunity to enrich one's holidays with excursions to discover the territory, its art, culture and local food-and-wine. Anyhow, it is still a limited share, considering the potential tourist offer of Cabras area, due to the top quality of tourist resources.

3.7. Tourist pressure

Pressures and impacts on the environment resulting from tourist presence on the territory of Cabras can be accessed through tourist pressure indicators, allowing to measure the degree of tourist flow, the potential conflict between tourist uses and primary residential ones, the anthropic pressure degree and, eventually, the temporal concentration of tourist flows.

As far as the Municipality of Cabras is concerned, tourist presence in 2007 has more than doubled the resident population, with a distribution of 227,2 tourists per sq km. This result is similar to the one of the Province of Oristano, appearing low when compared against the respective indicators of density/ tourist density for Sardinia and Italy. In the island, in fact, tourists exceed more than six times the number of resident inhabitants, being distributed throughout the whole territory of the island with a density of about 430 tourists per sq km, the highest data if compared with Italian average.

III. Results and performance of tourism

1. Introduction

This third chapter will show the performance of tourism activities in the Municipality of Cabras using the available data taken from the three pillars of sustainable development: economy (tourists' expenditure), society (tourism employment) and environment (energy consumption and land use change).

2. Economy

Tourism is a vital economic activity for every destination and its effects can be estimated analyzing the tourism expenditure in the area.

2.1. Tourist expenditure

A direct analysis carried out by the Municipality of Cabras shows that in 2008 tourists spent on average 87€ per capita and per day for their holidays, while the total tourism expenditure in the destination was 2.057.414€.

Table 4 – Tourism expenditure, 2008

| | Tourism expenditure |
|--|---------------------|
| Amount of money spent by each tourist in the destination per day | 87,09 € |
| Total amount of money spent by all tourists in the area | 2.057.414 € |

Source: Municipality of Cabras – Graphic elaboration: authors

In order to better understand how tourism influences the economic life of a destination, in the following paragraphs we will analyze the composition of tourist expenditure divided in two main parts:

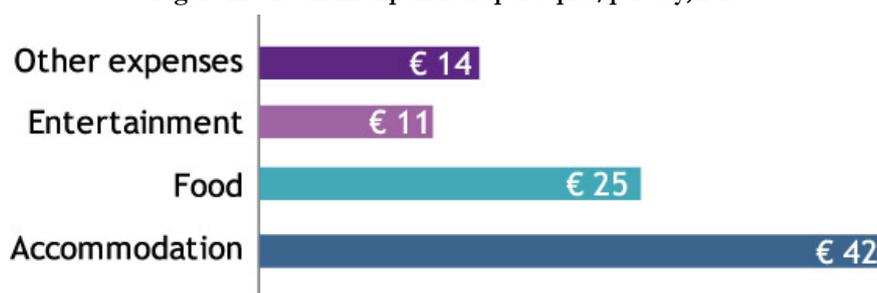
- expenditure for the permanence;
- expenditure for the trip.

The study of tourist's expenditure has been made using the available data of about 270 questionnaires given to tourists during summer 2010. The Conservatoria delle Coste designed this questionnaire to find out the motivations and characteristics of the average tourist in Cabras. This choice was also due to the lack of data.

2.2. How do tourists spend their money during their permanence?

The composition of tourists' expenditure regarding their permanence is a very important data and reveals what tourists need during their holiday.

Figure 11 – Tourism expenditure per capita/per day, 2010



Source: questionnaires – Graphic elaboration: authors

Using data collected through the questionnaires, the result shows that the most important expenditure, per capita and per day, is the accommodation, as we can see from the figure. Tourists spend on average 42€ per capita and per day for their place of residence and 60% of them stays in B&B accommodations, where is not possible to have the half board reservation. In fact, the second most important expenditure is the food, on average 25€ per day. Tourists spend about 11€ per day for the entertainment, a very low amount of money due to the lack of fun places in Cabras. A little bit more (14€) is spent in souvenirs and general expenditures.

2.3. Transport expenditure

To reach the destination from the rest of Italy and Europe, the ticket expenditure of the average tourist is 142€. Data taken from tourist's questionnaires show that 25% of tourists go to Sardinia by airplane. The air transport for national and international travels reported significant growth in the last years. This growth is due mainly to an increase of low cost flights (Ryanair and Easyjet) from Cagliari and Alghero.

3. Society

One of the most important results of the tourism industry is the tourism employment. Tourism is a significant driver of economic and social development.

3.1. Tourism employment

Tourism employment is one of the best variables for the development of a destination. To describe the existing dynamics in Cabras, we have analyzed the composition of tourist employees in hotels, B&B and restaurants in 2008.

Table 5 – Tourism employment, 2008

| Employees in tourism enterprises | Number |
|----------------------------------|--------|
| Men (15-64yrs) | 100 |
| Women (15-64yrs) | 97 |
| Young people (15-24yrs) | 41 |

Source: Municipality of Cabras

The table shows that the share of female employment is 49%, while about one in every four people employed in the tourism enterprises is a young person, which is equivalent to 17% of all people employed. This gives a total of 97 women and 41 young employed in 2008.

The total of 197 employees includes employees with a regular and permanent contract, thus it doesn't take into account those who work with an internship or an apprenticeship contract, as well as those with an irregular contract.

Almost 80% of the employees are permanently residents in the study area.

4. Environment

Nowadays, in Sardinia there is not a specific monitoring system that analyses the pressure of tourism on the environment. The available data collected for the study are aggregated and have been applied to tourism sector with specific estimation. The tourist density (tourists/km²) in 2009 is equal to 225,91, while the tourist index (tourists/inhabitants) is 2,50.

We can resume data quality for each area of interest as follow in Table 6.

Table 6 – Data quality – Tourism employment, 2008

| Area of interest | Type of data |
|--------------------|--|
| Energy consumption | Data from energy company invoices collected at single user level and aggregated for the municipality |
| Solid wastes | Aggregated direct data from the Municipality collected at local administration level |
| Water consumption | Lack of data at municipal level. Data based on Municipality estimations |

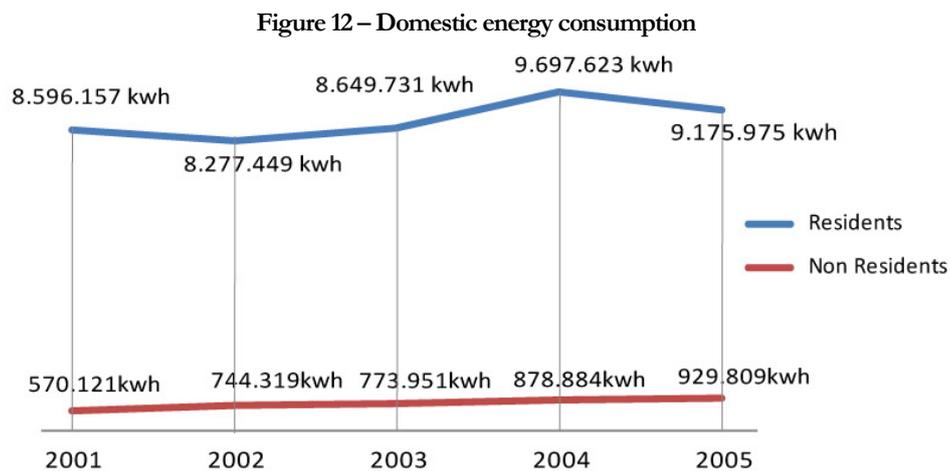
Source: Municipality of Cabras

Despite the lack of specific tourism data, we have used these data to understand how Cabras is acting to face the environment problems and what it is necessary to do in order to increase the sustainability of the area.

4.1. Energy consumption

The following available data have been taken from the invoices issued by ENEL, the Italian Company that manages the electricity, and describe the domestic energy consumption from 2001 to 2005.

The amount of energy used per household varies widely depending on the type of residence; in fact we have two different data for residents and non residents.



Source: ENEL – Graphic elaboration: authors

In 2001, the total electricity demand for residents was 8.596.157 Kwh. The electricity consumption was cut down by 3,71% during 2002. From 2003 it started to grow reaching the maximum peak in 2005 with 9.697.623 Kwh to meet energy needs. The 2005 peak can be related with financial invoices adjustment for that year. In 2006, electricity demand scaled down by 5% compared to 2005.

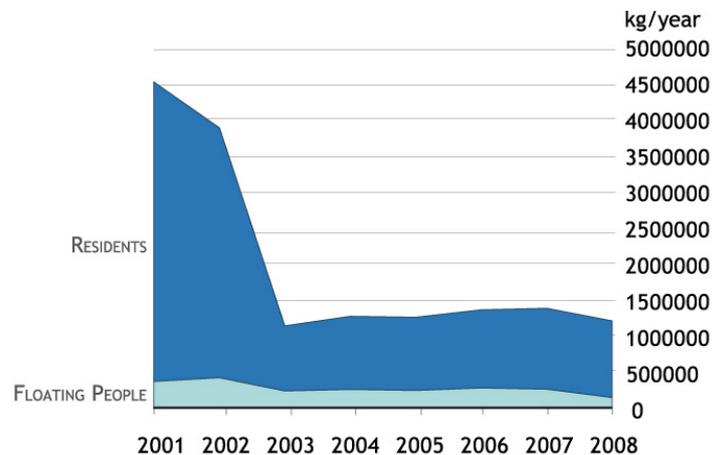
The situation for non residents is different. Starting from 570.121 Kwh in 2001, the energy consumption was characterized by a rapid growth in 2002 (+30,6%). From 2002 to 2003 the growth rate was softened (+4%), while from 2003 to 2005 it grown up to 20%.

To better understand how the electricity consumption is characterized and influenced in Cabras, we considered two different variables: the growth of population and the climate change. We know that the population didn't grow over the study period. We have studied the variation of climate temperature from 2001 to 2005 and we found out that the climate was characterized by comfortable temperatures as usual. Considering the two different variables, we can assume that the growth of the electricity consumption was due to the rise in the number of rented houses.

4.2. Solid wastes

The following graphic analyses the domestic mixed waste production from 2001 to 2008, using two different data for resident population and floating people, and without considering the volumes of separated waste analyzed in the fifth chapter.

Figure 13 – Mixed waste production



Source: RAS – Graphic elaboration: authors

Looking at the graphic, we can see a little decrease of mixed waste volume from 2001 to 2002, drastically dropped in 2003 due to the introduction of the waste collection managed by the municipal services of Cabras. The evolution of the mixed waste volumes produced over the period 2003-2008 reveals stabilization, with a maximum of 1.257.000 kg/year in 2007.

In the studied period the average share of floating people mixed waste production is 20% of the total municipal waste. In 2002 we have the only peak in the waste production (474.110 kg/year) which decreased in 2003 (267.937 kg/year) and scaled down in 2008 (164.867 kg/year), which represents 12% of the total municipal waste production of the year (1.356.760 kg/year).

In 2008, the tourists overnights in all tourism accommodations was 23.378, so the solid waste production per tourist and per day should be around 7,05 kg, which is a real strange data. In fact, the average of tourist waste production per day is usually estimated to be around 1,5-1,8 kg so we can assume that there is a high percentage of unregistered tourist presences.

Further information on solid waste treatment on Chapter 5, paragraph 5.6 “Treatment of solid wastes”.

4.3. Water consumption

Using data taken from ABBANOIA, the private company that manages water in Sardinia, and following a study made by the Conservatoria delle Coste to quantify the average water used in the tourist accommodations of Cabras, the research reveals that, in 2008, the percentage of water consumed by the tourism industry was 1,38%, in relevance to the total quantity of available water.

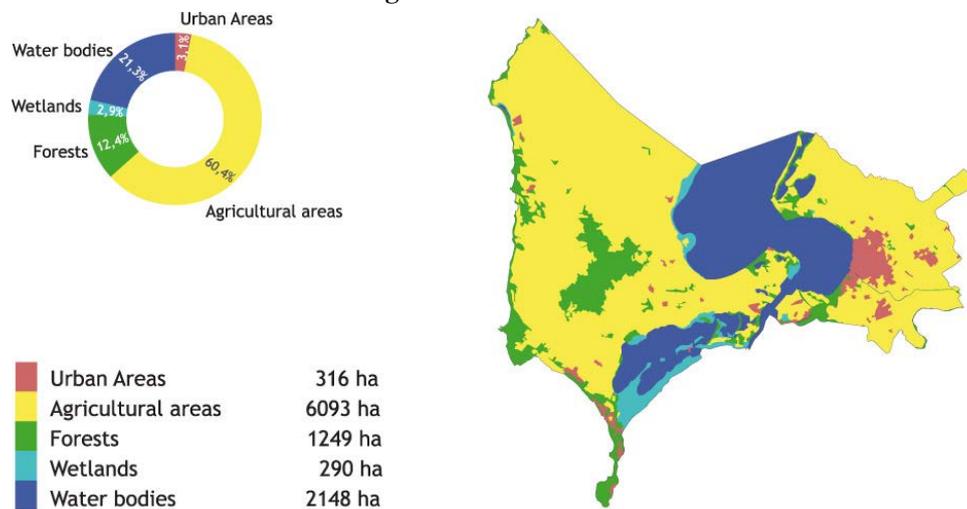
The percentage of non-treated wastewater in Cabras is 0%. All the municipal wastewater is treated and reused by the agricultural industry for irrigation, as well as by other economic activities.

4.4. Urbanization and land use changes

Cabras is characterized by a slight urbanization and a very recent tourism development with very few tourism resort settlements.

The settlement of Cabras has shown a different situation between the coastal areas and the inland. Along the coast, there are small seasonal tourist villages (such as San Giovanni di Sinis and Funtana Meiga), while on the inner side of the area there is the permanent residential complex (the Municipality of Cabras).

Figure 14 – Land use 2008



Source: Corine Land Cover – Graphic elaboration: authors

In fact, only 3,1% of the total area is composed by urban areas. The largest part of the area (about 60%) is represented by agricultural land, followed by 21,3% of water bodies with a number of fishery activities. Forest lands cover 12,4% of the area, while a little part (2,9%) is characterized by wetlands.

Table 7 – Type of coastline

| | Length |
|-------------------------------------|--------------|
| Coastline | 27.000 ml |
| Artificial coastline | 3.168,87 ml |
| Natural coastline (not constructed) | 23.831,13 ml |

Elaboration data: Conservatoria delle Coste
Source: GIS

The Table 7 shows that the artificialisation of the costal line (27 km) reaches 11%.

Table 8 – Changes in Surface of Land Uses per category, 1990-2006

| Category | Surface % |
|--------------------|-----------|
| Urban areas | 29,4 |
| Agricultural areas | -5,3 |
| Forests | 27,6 |
| Wetlands | 0,0 |
| Water bodies | 0,0 |

Source: Corine Land Cover – Graphic elaboration: authors

The Table 8 describes the changes in surface of land uses from 1990 to 2006, per category. As we can see, urban areas had an increased rate of 29,4%, while forests covered an increased rate of 27,6%. Only agricultural areas decreased by 5,3%, while wetlands and water bodies didn't change.

IV. Impacts of tourism on the destination

1. Introduction

The fourth chapter describes the tourism's effects on the local area analyzing the economic (GDP), social (population structure and employment) and environmental impacts (water and soil quality) of this activity.

2. Economy

The major tourism benefits for a region are the effects on the local economy, as it provides an opportunity for job creation, stimulates new business enterprises and generates revenue at local levels. The income generated can then be used to improve local services, whether by developing better transport and infrastructure or providing more facilities for residents and visitors.

The following paragraph, studying the GDP (Gross Domestic Product) and the GDP per capita, tries to explain how tourism influences the economic performance of the Municipality.

2.1. Gross Domestic Product

The Italian Statistical System provides economic data only on national and regional level, but doesn't analyze the municipal economy. For this reason, we were not able to study the evolution of the local economy.

The lack and the delays of official data regarding the importance of tourism sector in the local economy impede a good analysis of the sector. Due to this lack of official data, we had recourse to five experts' judgment analysis.

Table 9 – GDP

| | CABRAS | SARDINIA |
|-----------------------------|-------------|----------------|
| GDP | 165 mio € | 34.035,9 mio € |
| GDP per capita | 18.268 € | 16.332 € |
| Tourism GDP | 33,03 mio € | |
| Tourism Economic Importance | 20% | |

Source: Municipality of Cabras and experts judgment analysis

The GDP per capita in Cabras, equal to 18.268€, is higher than the Sardinian average. Tourism sector has made a strong progress over the last decade and its influence on local economy grew from 5% to 20%. These data don't show the real economic importance of the sector, because these percentages are calculated according to the official data without considering the undergrounded tourism economy that is estimated, in the whole island, around 80%.

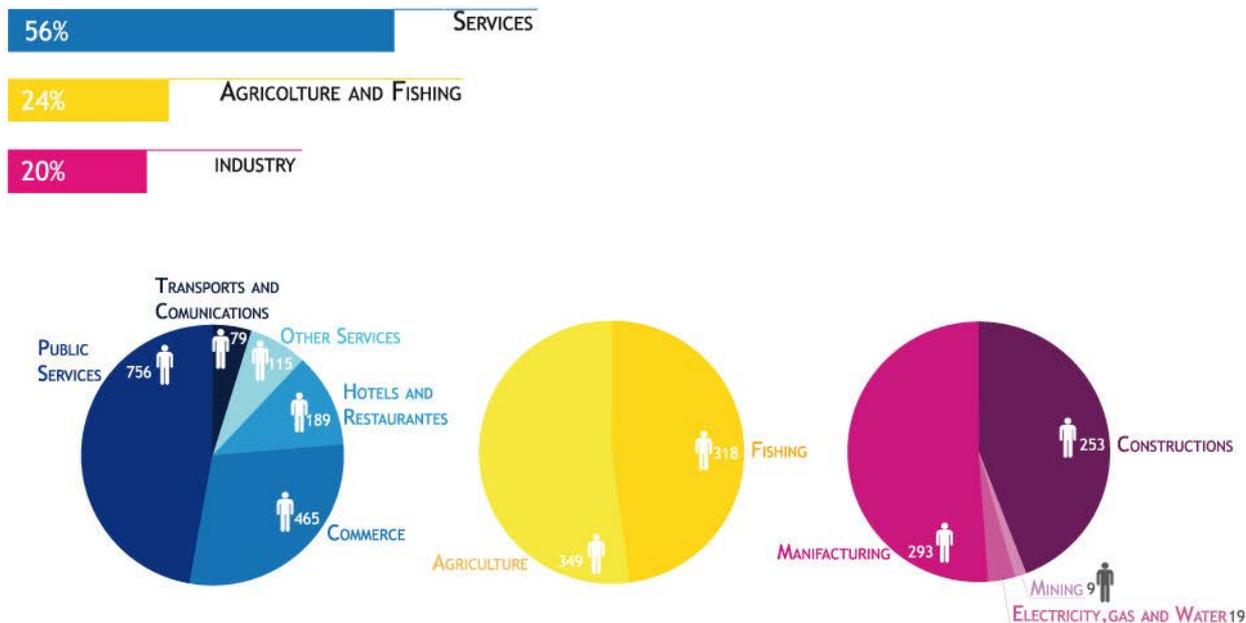
3. Society

The analysis of the local society is a crucial issue, because direct and indirect tourism effects can influence population's lives both in a positive or negative ways. Tourism employment is a factor for changes in the population structure of the area, as it can affect the number of active and employed population, the percentage of female and young employment, the migration flows, but can also influence residents' behavior and the local wealth.

3.1. Employment of the main economic sectors

The only available data about Cabras employees belong to the national census made in 2001.

Figure 15 – Employment of the most important sectors, 2001



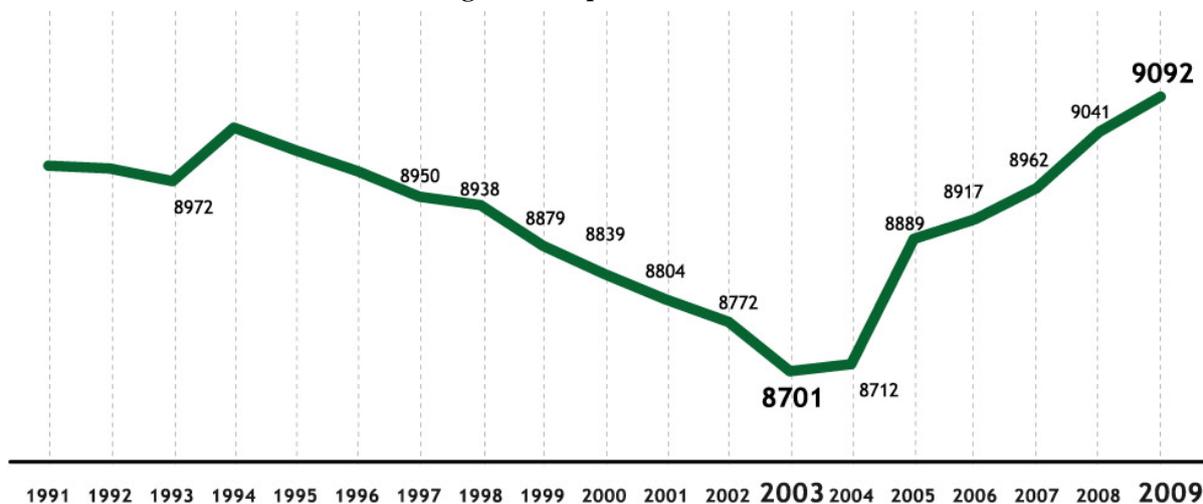
Source: ISTAT – Graphic elaboration: authors

As we can see from the graphics, the most important economic sector is represented by services accounting 1.604 employees; the second one is agriculture and fishing with 667 employed balanced between the two activities; the last one is the industry sector with 574 people working mainly in building and manufacturing enterprises.

3.2. Population evolution and structure

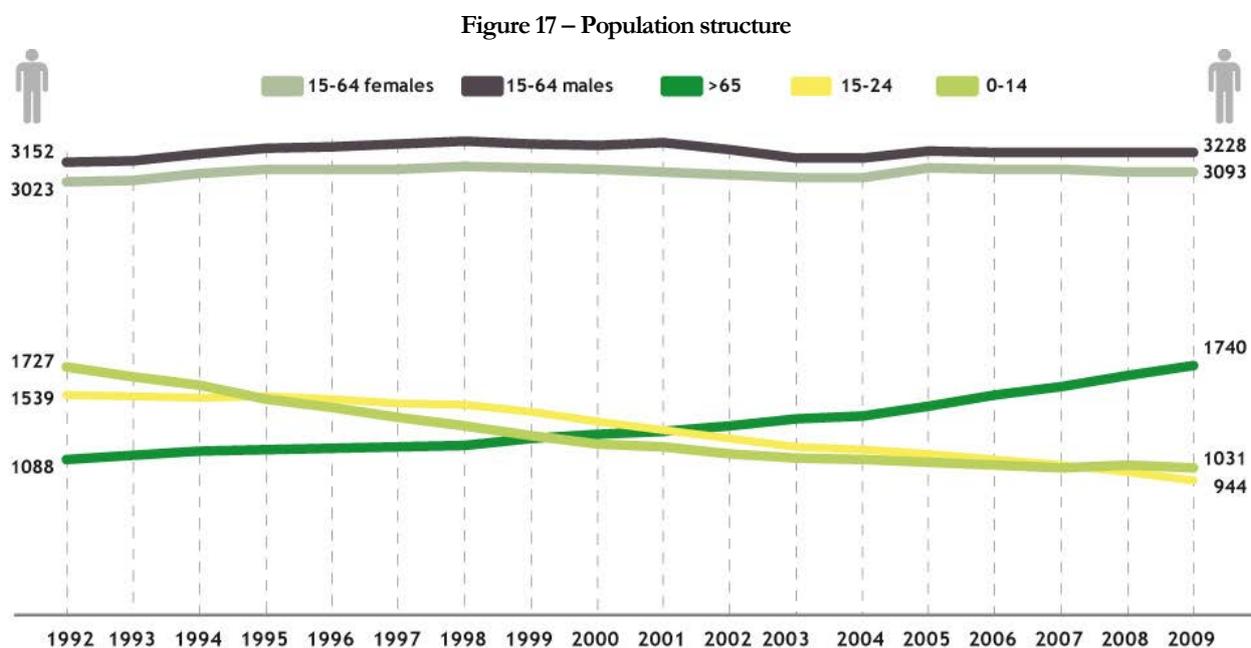
The dynamic of Sardinian residents in the last decade has shown a gradual depopulation of the rural areas and a growth population in the cities. However, coastal municipalities have maintained almost the same population and in some cases they have increased it.

Figure 16 – Population evolution



Source: ISTAT – Graphic elaboration: authors

Cabras population grew only 1% in the last decades, from 8.990 citizens in 1991 to 9.092 citizens in 2009. The population is concentrated in the urban area, extended for 3 sq km in the south-east side of the municipal territory.



In the last 20 years, the working-age population of Cabras didn't show any important variation, while the composition of dependent population switched from a majority of young people to a majority of aging people. The trend of aging people and young people is very significant and expresses the characteristic of the local community; the first one grew since 1992 more than 59%, while the second one decreased 40%.

The increasing number of people over 65 years is due to various aspects such as reduction in infant mortality, improvement in living condition, better access to health care and advances in medicine. In recent years immigration is playing an important role on population changes, especially on the aging phenomenon, although these flows are still not able to change the proportions among the different age groups.

Table 10 – Natural movement and migration

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|------------------|------|------|------|------|------|------|------|------|
| Natural movement | 1,00 | 0,86 | 0,88 | 1,08 | 0,76 | 1,06 | 0,75 | 1,04 |
| Migration | 0,52 | 1,19 | 1,34 | 0,87 | 1,77 | 1,77 | 1,48 | 1,28 |

Source: Osservatorio Economico – ISTAT data

3.3. Social cohesion

All studies on the subject have highlighted the difficulties of young people to find employment that meets the aspirations and attainment levels. Youth unemployment is a problem that concerns the entire region; the study area with 36,4% of young people unemployed reflects the entire region trends that is around 36,8%.

As we can see in the following table the labour force in 2001 is composed by 2845 employed people and 668 unemployed people, a total of 3.513 people which represents 55,1% of the total population between 15-64 (6.381 persons).

Table 11 – Employed and unemployed people, 2001

| | Employed | Unemployed |
|-------------|----------|------------|
| Male | 1.971 | 329 |
| Female | 874 | 339 |
| Young 15-24 | 259 | 243 |

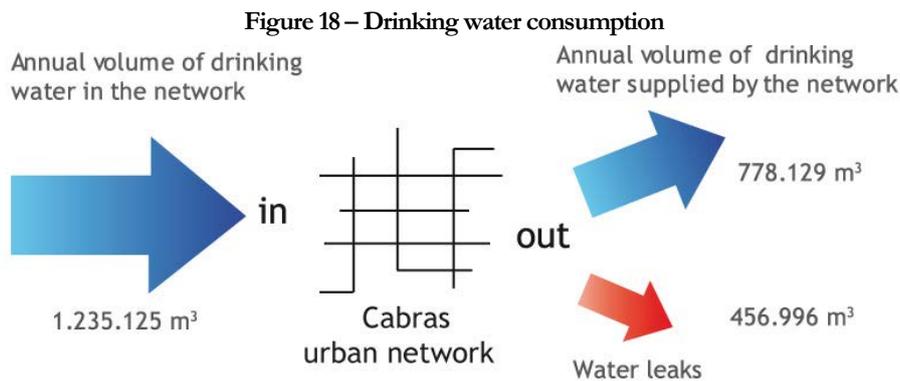
Source: Osservatorio Economico – ISTAT data

4. Environment

The development of sustainable tourism can produce beneficial effects by contributing to environmental protection and to its conservation. It is a way to raise awareness of environmental values and it can serve as a tool to finance protection of natural areas and increase their economic importance. If tourism pressure increases too much, its effect can change the environmental conservation of the area as it can reduce its capacity to produce goods and services to the local population.

4.1. Water availability

The following scheme shows the water balance in the Municipality. As we can see, the water leaks in the network in 2008 are more than 450 thousand m³, which means 37% of the total drinking water supplied by the network. It's important to say that the water is not treated before entering the urban network.



Source: Abbanoa RAS – Graphic elaboration: authors

4.2. Sea water

In order to monitor and protect coastal bathing water from any pollution or abnormal situation and prevent health hazards, Sardinia complies with European laws on bathing water quality.

The 18 sample water station, located along the 27km of coast, shows an excellent bathing water quality, according to the Classifications of Directive 2006/7/EC on bathing water quality. The microbiological concentration is always lower than the standards.

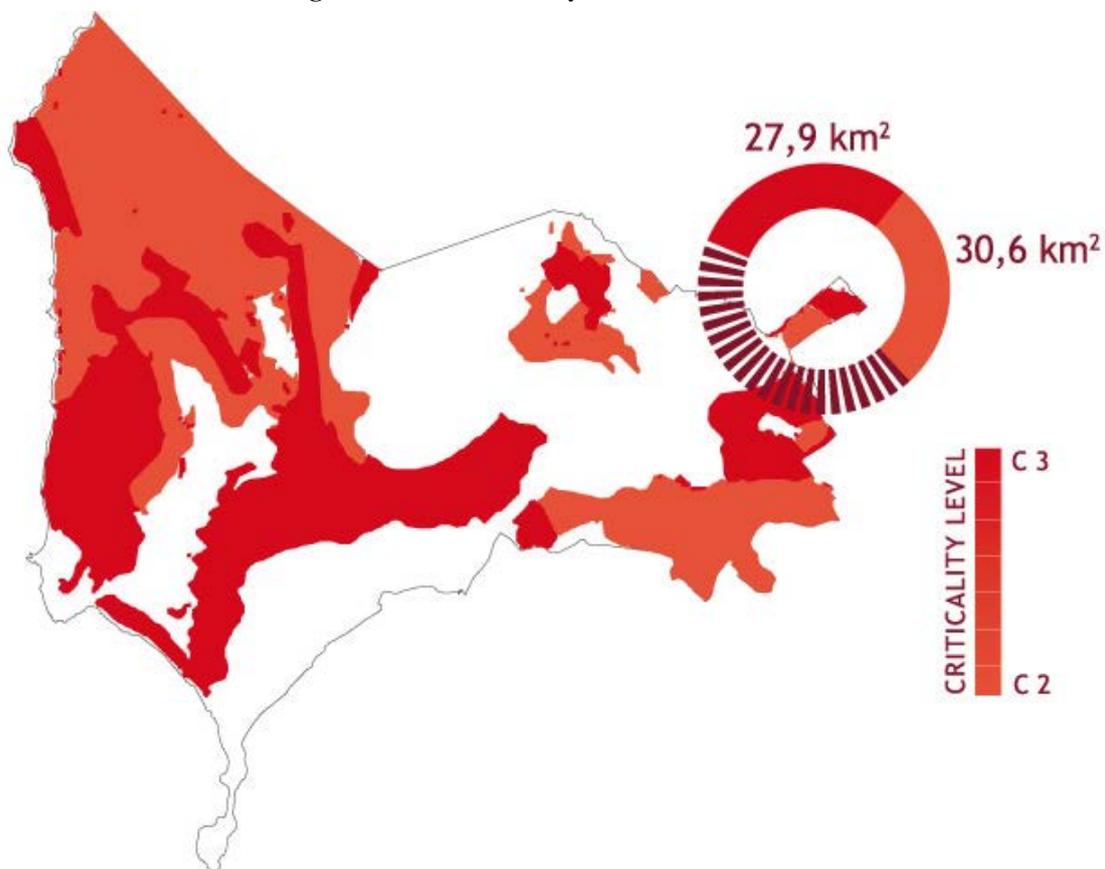
Monthly information on the results of the monitoring of bathing water quality and risk management measures is available online.

4.3. Soil

In 2000 the Agro-meteorological Service of Sardinia started to develop a Geographic Information System for assessing and monitoring Environmentally Sensitive Areas to Desertification using two methodologies: “Desertification Prone Areas” (Pimenta et al.,1997) and “Environmentally Sensitive areas” (ESAs) to desertification (MEDALUS Project (UE) Kosmas et al.,1997) and they draw a map of Sensitive areas (scale 1:100000) in 2004.

The Environmentally Sensitive Areas methodology has been elaborated in order to identify the sensitivity to desertification according to four indexes: Soil Quality Index, Climate Quality Index, Vegetation Quality Index and Management Quality Index.

Figure 19 – Environmentally Sensitive Area Index



Source: Authors Elaboration on ARPAS data

This study classifies the territory in 4 categories: Non-sensitive areas, Potential areas, Fragile areas and Critical areas. More than 50% of Cabras territory is classified as critical. The Figure 19 shows two different level of criticality: C3 (highest) and C2, and they represent the most degraded parts of the territory because of soil bad use and a danger for the surrounding areas' environment.

Table 12 – Soil quality

| Soil use | Weight | Extension km ² | % | Soil quality |
|-----------------------|--------|---------------------------|-------|--------------|
| Cultivations | 1 | 56,73 | 56,2% | 0,56 |
| Forests | 0,8 | 11,7 | 11,6% | 0,09 |
| Grassland for pasture | 0,5 | 4,2 | 4,2% | 0,03 |
| Urban areas | 0,2 | 3,2 | 3,2% | 0,01 |
| Rocky areas | 0 | 0,19 | 0,2% | 0,00 |

Source: Authors Elaboration on Corine Land Cover data

V. Policy measures to improve sustainability of the destination

1. Introduction

The fifth chapter describes the national, regional and local policies that influence the results and the impact of tourism in the destination. The role of governments in forming tourism policies on sustainable development and promoting tourism is also explored.

2. Policy measures at national level for environmental sustainability

In the last decades, the awareness on environmental matters by the Italian Government has grown. Currently, the Ministry of Environmental Affairs is responsible for promoting a sustainable environmental development of the Italian society.

With regard to the coastal and marine deterioration theme, a series of urgent actions have been identified in the following fields: waste water management, solid waste management, sand extraction and erosion management, marine ecological protection and institutional strengthening.

Italian Legislative Decree n. 152/2006 is the consolidated text on environmental protection. It includes rules on waste management (including hazardous wastes), environmental impact assessment and strategic environmental assessment procedures, water protection and environmental damage. Pursuant to such decree, waste management is under the responsibility of all the involved subjects, such as producers, transporters and waste management sites' operators. This decree sets forth all the relevant rules concerning the waste management such as, for instance, documents for the transport, declaration of waste production, competent authorities, sanctions, etc.

Since 1995, the Italian Ministry for the Environment Land and Sea has implemented the “National System on Environmental Information, Training and Education (INFEA)”. The aim is to raise public awareness and promote sustainable energy production and use among individuals and organisations, private companies and public authorities, professional and energy agencies, industry associations and NGOs. This objective is reached through the functional coordination of public structures and cooperation with public and private subjects, and with associations upholding research, trial and promotion in the field of environmental information and education.

Agenda 21, an action plan of the United Nations (UN) related to sustainable development, is a comprehensive blueprint of actions to be taken globally, nationally and locally by organizations of the UN, governments, and major groups in every area in which humans directly affect the environment.

3. Policy measures at regional and local level

The Autonomous Region of Sardinia provided an operative program (POR) at regional level, carried out from 2007 until 2013, to manage strategic actions for the environmental, economic and socio-cultural sustainability. The programme is divided in four specific sectors:

- **Energy:** specific actions carried out in order to use renewable energy, to manage energy conservation and to support the research in the renewable energy field in order to ameliorate the sustainable development.
- **Environment, natural and cultural attractiveness and tourism:** actions established for the environmental conservation addressed to the economic development, as well as to the soil protection, the management of waste production and water availability, the biodiversity valorization and the conservation of the SIC (Site of Community Importance).
- **Urban development:** actions established in order to adopt green building and green architecture standards; measures to increase the quality and environmental sustainability of products and urban services, and to improve urban environmental systems.

- **Competitiveness:** strategies addressed to SMEs to reach high levels of technological innovations; policies for the use of eco-products, systems to save water and energy and to reduce waste production, environmental certification and the creation of an environmental services consortium.

Programs and plans indicating guidelines for a sustainable development of the territory have been developed for each sector. Following the main plans of the operative program POR 2007-2013 concerning the environmental sphere:

- The **Sardinia Landscape Plan (PPR)** represents the first unitary Plan concerning the regional landscape and it is characterized by an innovative approach towards urban development and coastline. It is the first Landscape Plan that involves the whole regional territory in a single process of knowledge and management of strategic resources. The plan identifies 27 homogeneous areas, according to the landscape's components (landscape types, buildings, valuable or degraded areas, etc.) and sets specific quality targets for each area defining standards for urban development and new constructions, as well as for buildings renovation.
- The adoption of the **Regional Plan for Sustainable Tourism Development (P.R.S.T.S.)**, in 2007, demonstrates the government purpose to strengthen one of the most strategic sectors of Sardinian economy. The main strategy of the plan is to develop a "high quality tourism" based on the attractiveness of natural and cultural heritage, and supported by prices that distinguishes the region from those destinations characterized by strong tourism pressures and uncontrolled urbanization.

The Plan also expresses the needs of specific management instruments in order to control the development and the transformation processes focusing on tourism. According with the EU guidelines on Carrying Capacity Assessment (CCA), the models to estimate Tourism Capacity have been selected as the most appropriate tools to evaluate the environmental sustainability of government decisions. The Plan is a general guidelines tool addressed to the tourist areas in Sardinia and it is implemented through local activities and projects managed by the different municipalities. In Cabras, such projects are focused on the implementation of a strategy plan for local economy development in coordination with accordant public and private sector through the valorisation of the natural and cultural heritage. The aim of this marketing plan is the development of a permanent tourism activity and the incentive to travel during the off-peak periods.

- The **Hydro-geological system Plan (P.A.I.)** is a planning tool for soil conservation and aims to ensure adequate levels of security and protection from geological events and to develop interventions in order to reduce risk conditions. The plan identifies four classes of landslide and plumbing risk on the territory defining for each one the guidelines for protective measures, actions of structural risk mitigations and an estimation of the necessary costs.
- The **Forestry Environmental Regional Plan (P.F.A.R)** related to the regional forestry identifies 25 districts characterized by physical affinities, similar vegetation, natural and cultural identities. The plan provides a detailed operative planning at regional, local and department level.
- The **Water Protection Plan aims to (P.T.A.)** has been formulated in order to protect and conserve water resources and water demands connected with the development of productive and tourism activities. The plan aims to achieve the balance between water needs and availability: conservation measures, energy saving, recycling and reuse of water resources through infrastructure measures, in order to mitigate the impacts on environmental ecosystems.

As we can notice from the analysis of the regional planning programs, in the recent years, finally the Government of Sardinia adopted all the necessary tools to operate in an integrated and sustainable way.

In the last five years, the Regional Government of Sardinia has speed up the implementation of sustainable development policies. An articulated strategy, taking into account landscape planning, natural resources planning and management, have already shown its first results especially in waste management and in containing the "irrational" building of coastal areas of the late 90's. Once approved, the Regional Plan for Sustainable Tourism has not been followed by a real implementation. Sustainable tourism strategies are not yet

unframed under a regional coordination. Local initiatives are mostly autonomous and often contradictory with respect to other regional policies. More coordination is needed and just recently, in the end of 2010, the organization of regional meeting of tourism stakeholders in Sardinia (Stati Generali del Turismo) has represented a concrete step toward regional integrated strategy for tourism development.

At the same time, the local administrations showed a higher awareness of the real territorial condition, its potentials and its problems in all sectors. All these things represent a big step forward for an island like Sardinia, where relation between tourism and environmental protection is so important and where there is a strong necessity of new management philosophies that combines tourists' desires and their needs with the safeness of the environmental and cultural heritage.

The next step should probably happen at local level. Starting from the indications of these plans, the municipalities must adopt a long-term strategic planning and calibrated it on the effective needs of the community. If at regional level the sustainable planning practice has considerably increased over the last years, the municipalities are still far from the implementation of these strategies and after years many municipalities, including Cabras, have not provided yet a urban or a tourism plan.

In this context, the European Eco-label for tourist accommodation service can be a helpful tool for raising the environmental quality of tourism. In order to improve the sustainability of Sardinian tourism structures, and to increase the small number of eco-labelling enterprises, the Regional Administration, along with 11 other partners, joined the project Shmile "Sustainable Hotels in Mediterranean Islands and Area", a demonstrative project aimed at promoting Europe-wide label .

Under the local Agenda 21, Cabras has developed two projects: "PONTIS" and "A21 Progetto Pilota".

The PONTIS project was based on activities aiming to involve and inform the whole population, identify specific areas for sustainable actions related with waste collection, alternative energy, tourism and culture of hospitality, quality products and biodiversity conservation. Its partnership is composed by: the Municipality of Cabras, the International Marine Center, the National Research Council, Italia Nostra(an Italian NPO dedicated to the protection and promotion of environmental patrimony), ADINA (Cabras yachting association), the "Istituto Comprensivo (elementary school), the Cultural Centre "Giovanni Marongiu", the "Ippocampos Arborea" and the Tourism Operators belonging to the "Sistema Ospitale Cabras".

The ongoing "A21 Progetto Pilota" project supports the Environmental Education Center (CEA) for the implementation of project concerning education, information and communication.

4. Protected areas

In terms of territorial protection, the Marine Protected Area 'Penisola del Sinis - Isola di Mal di Ventre' has been instituted in 1997, in order to protect the territorial waters of coastal municipalities, classified according to 3 protection levels: ZONE A-high, ZONE B-medium and ZONE C-low.

There are also five Sites of Community Interest (SIC) and three Special Protection Zones (ZPS).

Table 13 – Protected areas

| Protected area typology | Ecosystem typology | Surface km ² |
|--------------------------------|---------------------------|-------------------------|
| Marine protected area | Marine | 250 |
| SIC/ZPS Stagno di Cabras | Coastal lagoon – Wetlands | 26,06 |
| SIC/ZPS Laguna di Mistras | Coastal lagoon – Wetlands | 14,52 |
| SIC San Giovanni di Sinis | Dune's system | 0,03 |
| SIC/ZPS Isola di Mal di Ventre | Marine island | 2,25 |
| SIC Il Catalano | Marine rock island | 1,22 |
| Total | | 294,08 |

Source: GIS RAS

The AMP Peninsula of Sinis - Mal di Ventre Island is implementing the environmental protection of the area and is working on:

- Protection and development of natural, chemical, physical, marine and coastal biodiversity, especially the *Posidonia oceanica*, through environmental restoration measures;
- Activation of environmental educational programs and publications of works on marine and coastal protected marine area;
- Implementation of monitoring and scientific research on natural sciences and environmental protection in order to improve specific knowledge;
- Analysis of the activities carried out mainly by residents and businesses and associations located in the Municipality of Cabras and those connected with tourism;
- Management of tourist flows along the coast and into the sea.

The SIC and ZPS areas are managed by the Municipality where the areas are situated through a plan that establishes the land uses according with the economical, social and cultural needs. This plan is an instrument for sustainable development; it identifies territorial and environmental threats and weaknesses, maintains and improves the biodiversity level, restores ecological balance, organizes activities of environmental protection, restores degraded environments, regulates tourism flows and their activities.

5. Environmental quality systems

Table 14 – Environmental centre

| Environmental monitoring system | Environmental Information Centres | Number of NGO | Existence of spatial planning and management system |
|---------------------------------|-----------------------------------|---------------|---|
| YES | YES | 0 | NO |

Source: Municipality of Cabras

The MPA, with a team of employed and volunteers, working for the Municipality, works on management, valorization, promotion, monitoring of the environment and the Marine Protected Area.

Even if there are non environmental NGOs based in Cabras, several external NGOs as Legambiente, WWF and GRIG are active in this area.

None of the beaches of Cabras is characterized by a Blue Flag accreditation. Actually, the Blue Flag mechanism is not widespread in Sardinia as in other Italian destinations due to several reasons. First of all, because the accreditation is expensive for the municipalities since they have to do at least two samples per month on bathing water (not necessary according to Italian law). Secondly, because the evaluation basically regards services and beaches' safety, environmental management and environmental education rather than environmental and nature quality, which is usually considered the most important parameter. And lastly, the fact that the accreditation is voluntary reduces the interest of municipalities which prefer other types of accreditations that evaluate the entire coast.

As a matter of fact, Sardinian beaches are so far considered the most beautiful and attractive in Italy. According to another Italian accreditation called "Goletta verde", conducted by Lega Ambiente and Touring Club, Sardinia is the best Italian region for bathing water quality, landscapes and beaches, for the promotion and preservation of the environment and the implementation of sustainability policies.

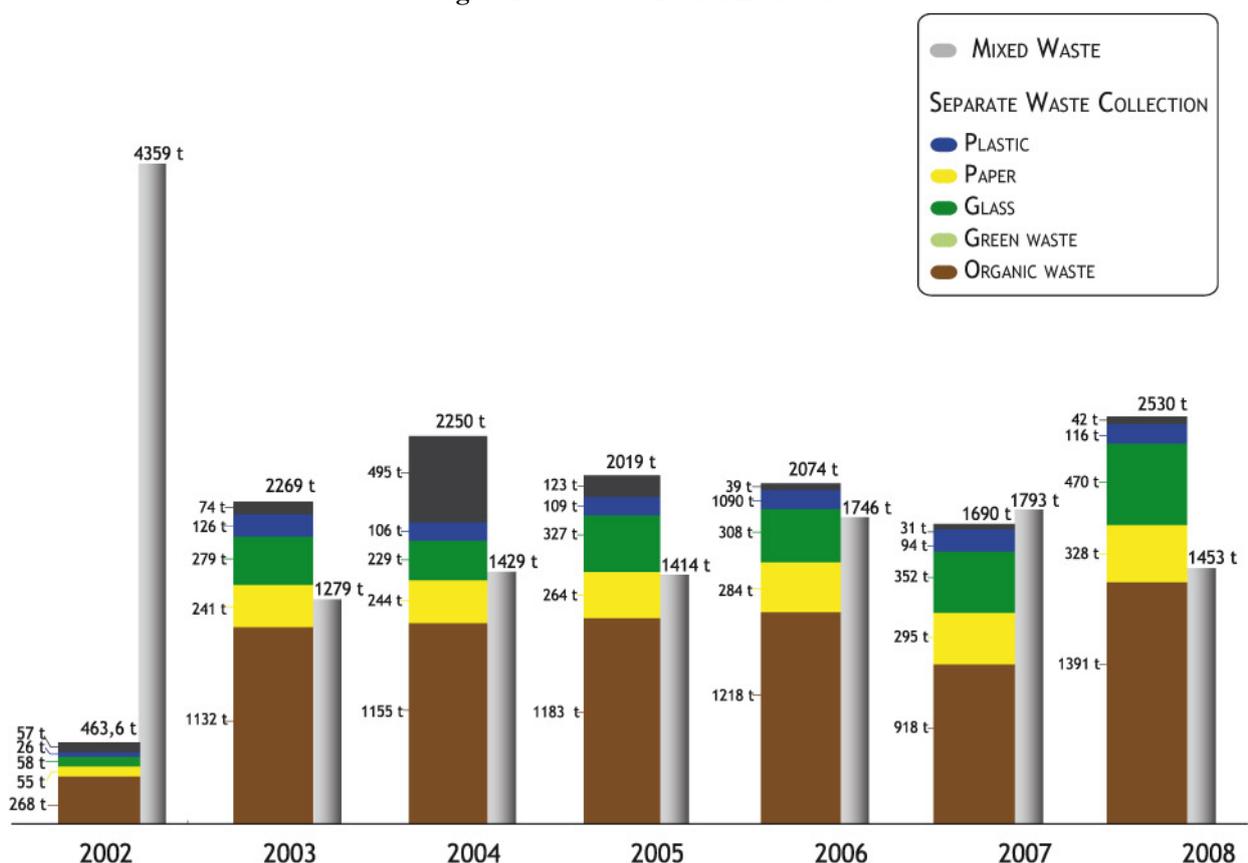
The classification is based on the number of Blue Sails, assigned by Lega Ambiente to the Italian coastal municipalities. Five Sails is the highest award. Among 295 Italian destinations that got the blue sails, 35 destinations are located in Sardinia, 3 of them reached Five Sails and other 11, including the Municipality of Cabras, got Four Sails.

6. Treatment of solid wastes

In recent years, Sardinia has been almost the only region in the central and southern Italy to make significant progresses in integrated waste management, trying to reach the objective set by the Italian and European legislation.

The increase of recycling percentage has been possible thanks to the wide diffusion of the separate collection, accelerated by policies of bonus and penalties introduced by the Regional Government of Sardinia to penalize disposal by landfills and incentivize recycling programs. Compared with the other Sardinian municipalities with same range population (5.000-10.000), Cabras is one of the most efficient municipalities in waste management practices.

Figure 20 – Waste Collection Evolution



Source: ARPAS – Graphic elaboration: authors

By the graph we can see that already one year after the introduction of separate collection, the production of mixed waste decreased significantly, as well as the quantity of waste. Organic waste, which is the major component of municipal waste, is collected door to door; the same method is used to collect glass and plastic. This important success is basically due to a strong energy between regional and local governance of waste management. The most important part of this result is linked to domestic separate collection but still has to be fully implemented in the private sector. Tourism sector has a strong potential to lead this green revolution with the introduction of hotel environmental management system and in particular the European ecolabel. Meanwhile, the MPA is working to implement the EMAS and the regional Agency “Conservatoria delle Coste” is developing an ambitious project for the diffusion of the EU ecolabel in the tourism sector, in the west and northern coast of Sardinia. The project will last 3 years and it will end in 2014.

VI. Systemic analysis of the tourism destination

The specific objective of the systemic analysis is to frame roles, influences and interactions of external and internal actors of the tourism destination. With respect to the lack of direct knowledge, a specific survey has been carried out during summer 2010 and the main outputs are presented in this report.

To complete the analysis, a SWOT analysis approach has been chosen. The main outputs of the research will be explained through strengths, weaknesses, opportunities and threats.

1. The role of external actors: tourists

This section describes the results of the tourist survey conducted on a sample of 270 tourists in the Municipality of Cabras. This activity aimed to collect direct information in order to describe the current Cabras tourism system framework.

1.1. Tourists survey

The interviewees sample reflects the official data, 2/3 of tourists in Cabras are Italians, especially during the high season and they come mainly from the north of Italy.

Figure 21 – Italian tourists' origin

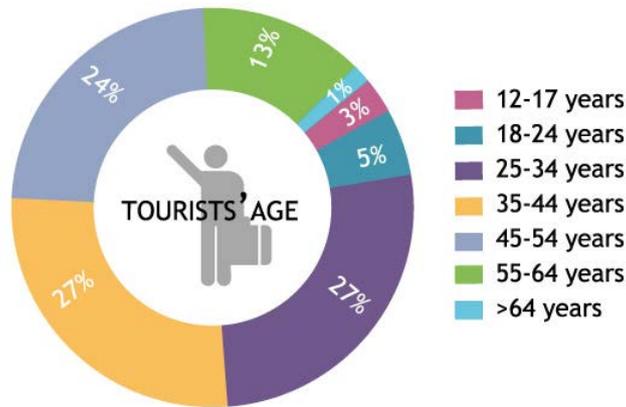


Source: questionnaires – Graphic elaboration: authors

The destination presents several attractions such as pristine beaches, natural resources, cultural events, archaeological heritage, old fashioned villages, which make this destination particularly attractive for different categories of tourists. In fact, the tourist who chooses this destination is not interested only in beaches and sea, but also in discovering the area and organizing excursions in natural and cultural places.

Considering the age profile, as we can see from the Figure 22 below, 78% of interviewees are aged between 25 and 54.

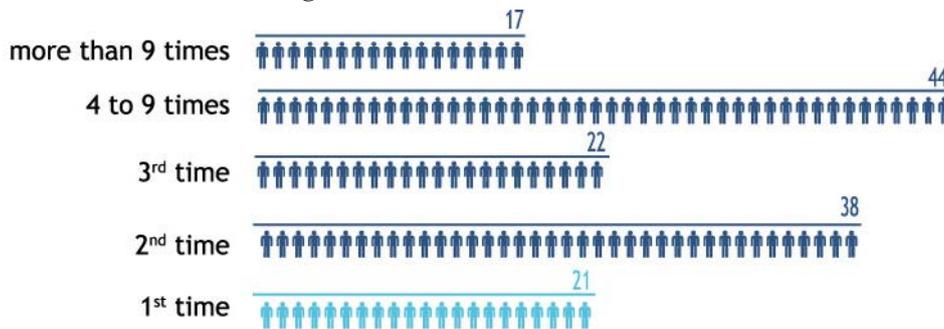
Figure 22 – Tourists' age



Source: questionnaires – Graphic elaboration: authors

A total of 61 tourists have been in Cabras more than 2 times. Only 21 people, which means 15% of the sample, were visiting the location for the first time while 38 tourists went back to Cabras for the second time.

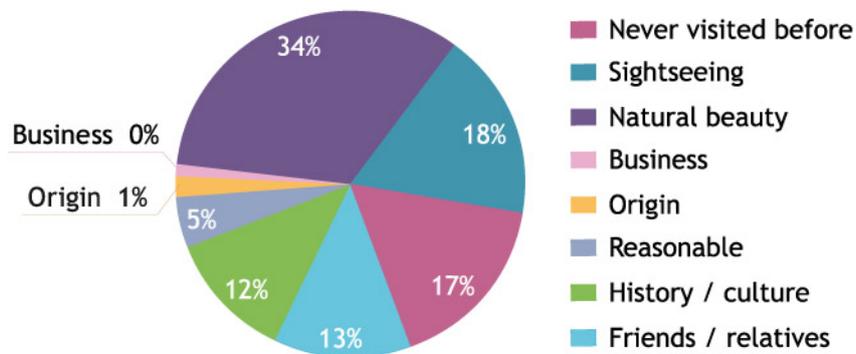
Figure 23 – Number of times in Cabras



Source: questionnaires – Graphic elaboration: authors

Looking at the graph below, we see that the first reason to visit the area is the natural beauty, around 34%; the second reason (18%) is the sightseeing while 17% answered that they chose the location because they have never visited the area.

Figure 24 – Reasons for visiting the area

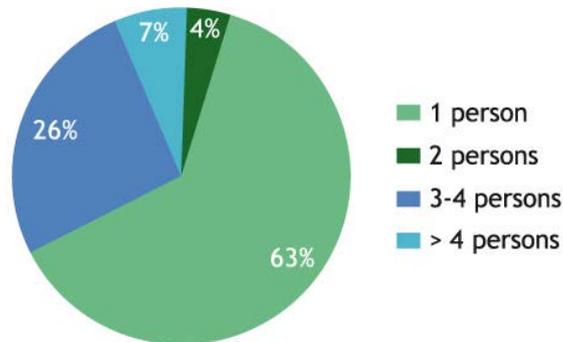


Source: questionnaires – Graphic elaboration: authors

Basically, the main reasons for choosing Cabras are connected with environment and landscape. A small percentage of tourists chose Cabras to visit friends and relatives, or to visit historical and cultural places. Nobody chose Cabras for business, it probably depends on the fact that the interviews were done over summer.

The Figure 25 shows another important information: Cabras is a destination for individual travellers and families with almost no tour operators operations. Travellers are moving mostly in pairs or small family groups of maximum 4 components.

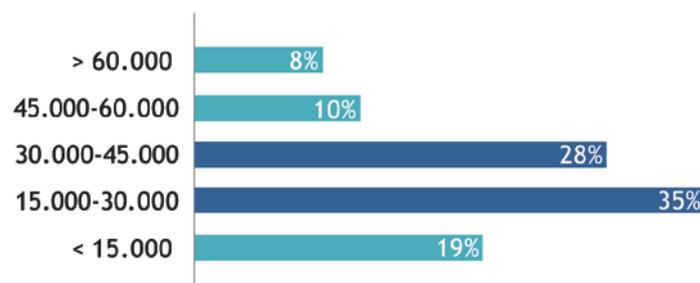
Figure 25 – Composition of travelling groups



Source: questionnaires – Graphic elaboration: authors

The survey confirms, as expected, that the type of tourists who choose Cabras as a destination for their holidays are medium budget tourists, 65% of respondents have an annual income between 15 and 45 thousand € per year. Travellers are moving mostly in pairs or small family groups.

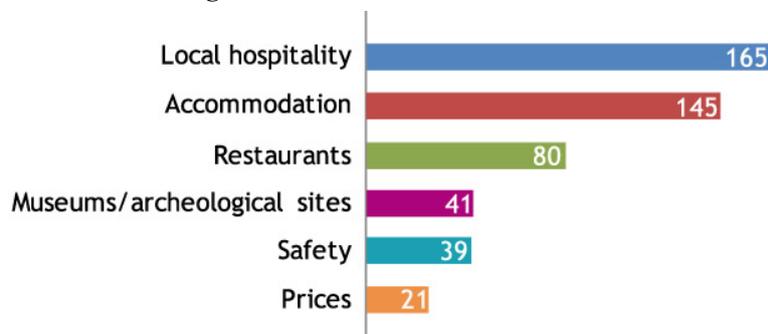
Figure 26 – Tourists' income



Source: questionnaires – Graphic elaboration: authors

In order to formulate strategic tourism plans, it's important to analyze the tourist feedback about the experience. For this reason, one of the final questions asked in the questionnaire was about the level of satisfaction and dissatisfaction of the trip; interviews were asked to express a maximum of three choices on both aspects.

Figure 27 – Tourists' level of satisfaction

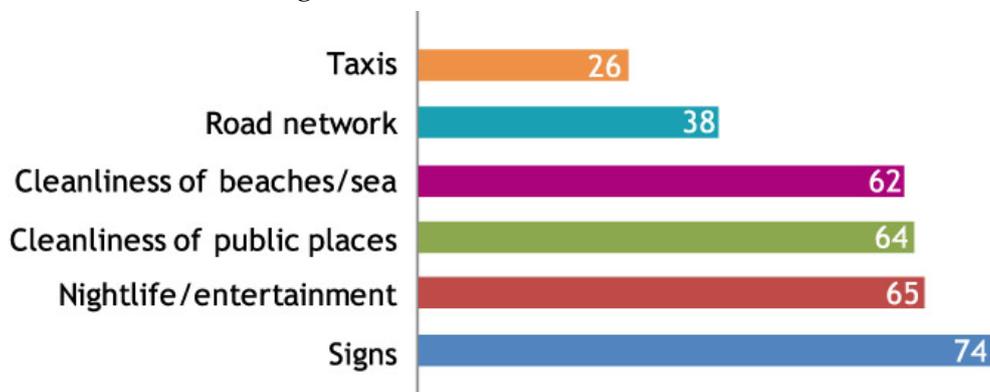


Source: questionnaires – Graphic elaboration: authors

By the total number of votes, we can clearly see that the majority of respondents were very satisfied with their experiences.

The local hospitality is the characteristic that they appreciate the most and represents a sign of distinction; then there are the quality of accommodations followed by the quality of restaurants, then museums and archaeological sites, safety and prices.

Figure 28 – Tourists' level of dissatisfaction



Source: questionnaires – Graphic elaboration: authors

With almost the same votes, signs, entertainment and cleanliness of public places and beaches are the aspects that interviewees like the least.

1.2. Transports

Data taken from tourists questionnaires show that 25% of tourists go to Sardinia by airplane. The air transport for national and international travels reported a significant growth in the last years. This growth is due mainly to an increase of low cost flights (Ryanair and Easyjet) from Cagliari and Alghero.

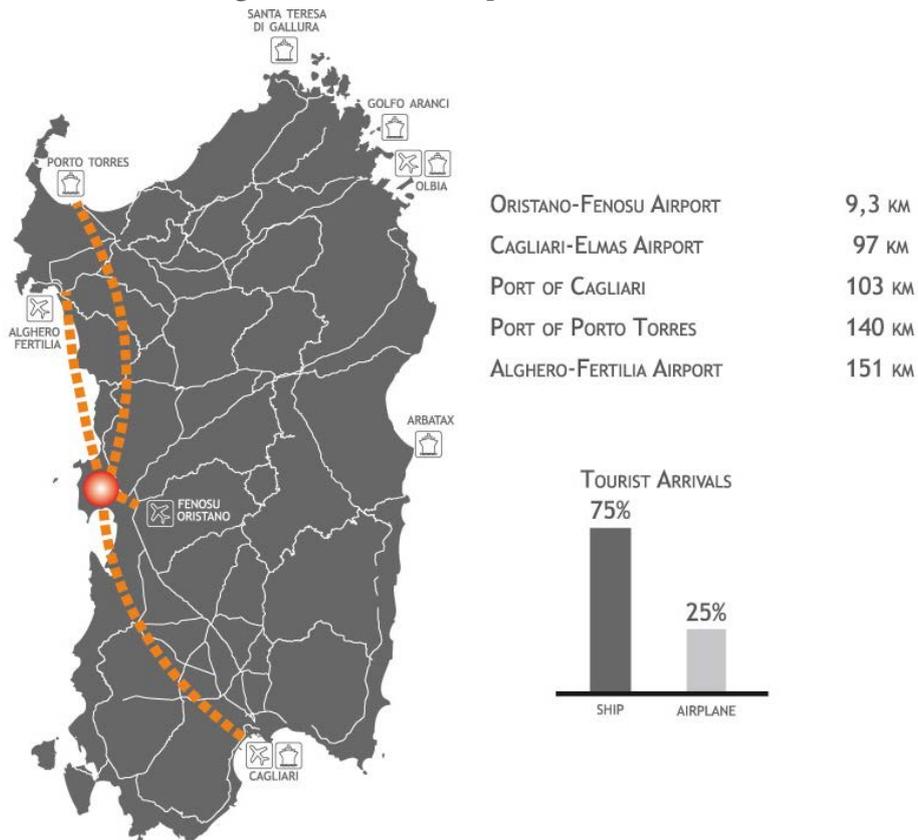
In June 2010 the new airport of Fenuosu has opened. The airport is located near the city of Oristano and it includes flights to and from Rome and Pisa (available only over summer) with the FlyOristano Company. The current airport is a response to a projected demand for additional national passenger capacity to the region. Since now, a total of 4.900 passengers have flown with FlyOristano.

Regarding the maritime transport, tourists reach the island through the ports of Cagliari and Porto Torres. The following list describes the connections from the two ports:

- Cagliari
 - Civitavecchia (Tirrenia)
 - Napoli (Tirrenia, Dimaio Lines)
 - Palermo (Tirrenia) Trapani (Tirrenia)
 - Arbatax (Tirrenia)
- Porto Torres
 - Propriano – Marsiglia (La Mériidionale)
 - Barcellona (Grimaldi Lines) Ajaccio (SNM)
 - Genova (Tirrenia, Moby Lines, Grandi Navi Veloci)
 - Civitavecchia (Grimaldi Lines)

The graphic shows that 75% of tourists prefer going to Sardinia with a maritime transport. One reason is certainly the price of the ticket, which is usually less expensive than the airplane ticket. Another motivation is that individual mobility is particularly effectuated with personal car and tourists can bring their own car travelling by ship.

Figure 29 – Means of transport to reach Sardinia

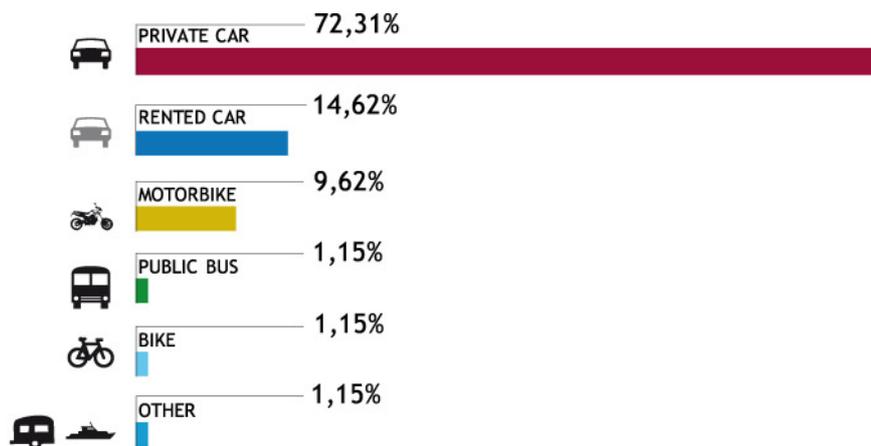


Source: questionnaires – Graphic elaboration: authors

1.3. How do tourists go around Cabras?

Using the questionnaires, we have asked tourists how they prefer going around Cabras and Sardinia. The result of the interviews was that urban public transports and railways don't satisfy tourists' needs.

Figure 30 – Means of transport used for the trip



Source: questionnaires – Graphic elaboration: authors

In the Figure 30, it is understandable that the car is the main transport mean used by tourists. It has become a functional need for tourists who want to go around the island. In fact, 72,31% of tourists use their personal car and 14,62% decide to rent a car. The consequence is a small use of public transport, only 1,15% of tourists. A better urban public transport is indispensable for the development of a sustainable tourism.

In order to enjoy the pristine coastal areas landscape, an average of 9,62 % of tourists use motorbikes.

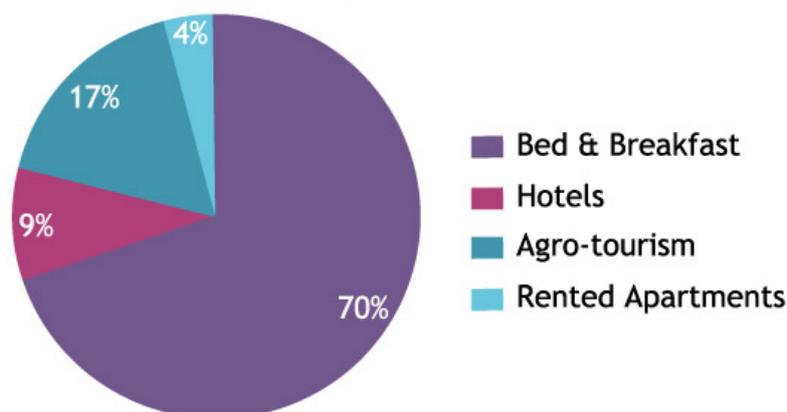
2. The role of internal actors: businesses

This section describes the results of the business survey conducted on a sample of 23 operators of different accommodation facilities in the Municipality of Cabras.

2.1. Tourism businesses survey

The sample included 23 businesses distributed as follow.

Figure 31 – Typology of tourist accommodation



Source: questionnaires – Graphic elaboration: authors

The survey highlighted some relevant differences in terms of number of employees per structure. B&B structures, mainly owned by local families, can't be considered real "businesses" as they ensure just one employee per structure. Farm stays present more significant impact on employment with an average of 3 employees per structure. Hotels sector, in terms of employment market, plays the most relevant role with 3 permanent employees (12 months per year), 7 seasonal employees (4 months per year) and 20 part-time (mainly in July and August). Rented apartments have not direct effect on employment market.

The extraction of quantitative information about single business has been very difficult. Only six B&B operators have declared their income. The average income is about 4.200€ per year (with an average of 30€ per person).

Several campaigns carried out by the MPA of Sinis in the last years have raised the awareness on environmental management.

More than 90% of tourism structures do separate waste collection and almost all businesses have already substituted incandescence lamps with low consumption ones. Still few businesses have introduced renewable energies (e.g. photovoltaic and solar).

3. SWOT Analysis and conclusions

The SWOT analysis intends to summarize the main findings of the report proposing recommendations and room for improvement.

Strengths

- Businesses owners and managers mainly reside within the Municipality of Cabras guarantying that profits of their activities remain in the area with a relevant contribution to local GDP.
- The growing of tourism sector, in Cabras, doesn't affect only hotels and restaurants, but it gives also an important support to the fisheries sector. The huge mass of tourists in the coastal areas generates, in fact, an additional demand for fishery products helping to promote an important traditional production sector and creates new jobs.

- Concerning the environmental sphere, great results have been obtained by the policies on waste management. The separate waste collection and the “door to door” management, in the municipal territory, achieved the goals of containment the total waste production and maximum interception of recyclable fractions, ensuring optimal quality of the residual waste, non-recyclable, to dispose in land-filling. The effects of these policies are visible also on the tourism structures. All the interviewed operators confirmed the strict policies on separate collection for plastic, paper, aluminum, packing papers and batteries. In order to save energy, tourist operators use low consumption lamps and sometimes they also have solar systems, as well as natural shading.

Weaknesses

- The lack of available statistics, despite the large number of sectors involved directly and indirectly in tourism, makes it difficult to assess the impact of tourism on the socio/economic situation.
- The main tourism is related to beach and sea, which determines a concentration of tourism flows during summer time and especially during July and August; the short and strong seasonality obviously creates environmental problems and affects tourist sustainability.

Opportunities

- What appears from this analysis is the need to improve local tourist policies, which means guarantee a qualified staff, operators with good knowledge of foreign languages, large choice of services focused on individual and family needs; clean and accessible spaces and other services able to accommodate tourists.
- It is important to foster the marketing strategies in order to create and transmit a favourable image to potential tourists in target markets and, obviously, monitoring destination capacity in providing experiences that corresponds to the image expected by travellers.
- It is necessary to have an adequate road network to manage traffic flows in summer, appropriate connections with the closest ports and airports, an efficient and competitive public transport able to reduce the necessity of private vehicles.
- Voluntary instruments are still necessary to improve environmental excellence and eco-efficiency, and to gain greater market visibility.
- As it appears also from operators interviews, the environment is the key to extend the season not only during summer months, and in the environmental policies it's possible to find the way to reduce the environmental impacts produced by tourists crowding during summer time.
- Foreign tourism flows showed a larger distribution during the year and with a higher expenditure rate. Cabras destination marketing strategy must be oriented in attracting more foreign tourists.

Threats

- During the last decades, the lack of institutional organism and monitoring system on coastal planning generated a rapid escalation of disparate, divergent and often development strategies and territorial models. Only in last few years, the Government started to understand the necessity of new policies in order to control this phenomenon.
- Means of transport appear as one of the biggest threat for the area in terms of connection with the main airports and ports, as well as public transports within the destination.

BIBLIOGRAPHY

- Agenzia Regionale per la protezione dell'ambiente della Sardegna (2002). *3° Rapporto sulla gestione dei rifiuti urbani in Sardegna Anno 2001*
- Agenzia Regionale per la protezione dell'ambiente della Sardegna (2003). *4° Rapporto sulla gestione dei rifiuti urbani in Sardegna Anno 2002*
- Agenzia Regionale per la protezione dell'ambiente della Sardegna (2004). *5° Rapporto sulla gestione dei rifiuti urbani in Sardegna Anno 2003*
- Agenzia Regionale per la protezione dell'ambiente della Sardegna (2005). *6° Rapporto sulla gestione dei rifiuti urbani in Sardegna Anno 2004*
- Agenzia Regionale per la protezione dell'ambiente della Sardegna (2006). *7° Rapporto sulla gestione dei rifiuti urbani in Sardegna Anno 2005*
- Agenzia Regionale per la protezione dell'ambiente della Sardegna (2007). *8° Rapporto sulla gestione dei rifiuti urbani in Sardegna Anno 2006*
- Agenzia Regionale per la protezione dell'ambiente della Sardegna (2008). *9° Rapporto sulla gestione dei rifiuti urbani in Sardegna Anno 2007*
- Agenzia Regionale per la protezione dell'ambiente della Sardegna (2009). *10° Rapporto sulla gestione dei rifiuti urbani in Sardegna Anno 2008*
- Agenzia Regionale per la protezione dell'ambiente della Sardegna (2010). *11° Rapporto sulla gestione dei rifiuti urbani in Sardegna Anno 2009*
- European Environment Agency (2010). *The European Environment – State and outlook 2010*.
- Innocenti P. (2007). *Geografia del turismo*. Carocci, 3rd Edition.
- Ministero delle Infrastrutture e dei Trasporti (2009). *Il Diporto Nautico in Italia*. MIT Ufficio di Statistica
- Motroni A., Canu S., Bianco G., Loj G., (2004). *Carta delle aree sensibili alla desertificazione*. Servizio Agrometeorologico Regionale per la Sardegna.
- Regione Autonoma della Sardegna (2007). *POR - Programma Operativo Regionale Sardegna FESR 2007 – 2013*.
- Regione Autonoma della Sardegna (2008). *Piano di marketing 2008-2009*.
- Regione Autonoma della Sardegna (2009). *PAAR - Piano d'Azione Ambientale Regionale 2009 – 2013*.

Sources

- Database of the Municipality of Cabras.
- Database of the Autonomous Region of Sardinia.
- <http://www.comunedicabras.it/>
- <http://www.sardegnaterritorio.it/j/v/1123?s=6&v=9&c=7426&na=1&n=10>
- <http://www.comunas.it/cabras/>
- <http://www.sardegnaturismo.it/offerta/cultura/cittaepaesi/citta/cabras.html>
- <http://www.areamarinasinis.it>
- <http://www.portaleacque.it/home.spring#>
- <http://www.istat.it/>
- <http://www.mit.gov.it>
- <http://www.minambiente.it>
- <http://dawinci.istat.it/MD/dawinciMD.jsp>
- <http://www.sardegnaturismo.it/en/index.html>
- <http://www.sardegna statistiche.it/>
- <http://www.eea.europa.eu/data-and-maps>

Table of illustrations

| | |
|--|----|
| Figure 1 – Accommodation capacity, 2010..... | 9 |
| Figure 2 – Overnight stays data in hospitality offer, 1996-2006..... | 11 |
| Figure 3 – Arrivals in Province of oristano, 2006..... | 12 |
| Figure 4 – Tourist overnight stays, 1996 and 2006..... | 12 |
| Figure 5 – Overnight stays seasonality, 2006..... | 13 |
| Figure 6 – Tourists arrival seasonality, 2006..... | 13 |
| Figure 7 – Domestic overnight stays in Cabras..... | 14 |
| Figure 8 – Foreign overnight stays in Cabras..... | 14 |
| Figure 9 – Occupancy rate in Cabras..... | 14 |
| Figure 10 – Tourism expenditure per capita/per day, 2010..... | 16 |
| Figure 11 – Domestic energy consumption..... | 18 |
| Figure 12 – Mixed waste production..... | 19 |
| Figure 13 – Land use 2008..... | 20 |
| Figure 14 – Employment of the most important sectors, 2001..... | 22 |
| Figure 15 – Population evolution..... | 22 |
| Figure 16 – Population structure..... | 23 |
| Figure 17 – Drinking water consumption..... | 24 |
| Figure 18 – Environmentally Sensitive Area Index..... | 25 |
| Figure 19 – Waste Collection Evolution..... | 30 |
| Figure 20 – Italian tourists’ origin..... | 31 |
| Figure 21 – Tourists’ age..... | 32 |
| Figure 22 – Number of times in Cabras..... | 32 |
| Figure 23 – Reasons for visiting the area..... | 32 |
| Figure 24 – Composition of travelling groups..... | 33 |
| Figure 25 – Tourists’ income..... | 33 |
| Figure 26 – Tourists’ level of satisfaction..... | 33 |
| Figure 27 – Tourists’ level of dissatisfaction..... | 34 |
| Figure 28 – Means of transport to reach Sardinia..... | 35 |
| Figure 29 – Means of transport used for the trip..... | 35 |
| Figure 30 – Typology of tourist accommodation..... | 36 |
| Table 1 – Accommodation capacity, 2010..... | 9 |
| Table 2 – Tourists fluxes, 2006..... | 11 |
| Table 3 – Average stay period, 1996 - 2006..... | 15 |
| Table 4 – Tourism expenditure, 2008..... | 16 |
| Table 5 – Tourism employment, 2008..... | 17 |
| Table 6 – Data quality – Tourism employment, 2008..... | 18 |
| Table 7 – Type of coastline..... | 20 |
| Table 8 – Changes in Surface of Land Uses per category, 1990-2006..... | 20 |
| Table 9 – GDP..... | 21 |
| Table 10 – Natural movement and migration..... | 23 |
| Table 11 – Employed and unemployed people, 2001..... | 24 |
| Table 12 – Soil quality..... | 25 |
| Table 13 – Protected areas..... | 28 |
| Table 14 – Environmental centre..... | 29 |