

## CLIMATE CHANGE AND ITS EFFECTS ON TOURISM. THE CASE OF SARDINIA

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### ABSTRACT

*Climate change or called "global warming", refers to the rise in average surface temperatures on Earth. Scientifics maintain that climate change is due primarily to the human use of fossil fuels, which releases carbon dioxide and other greenhouse gases into the air. The gases trap heat within the atmosphere, which can have a range of effects on ecosystems. But the climate change can really influence the tourism in a specific area?*

*The goals of this study is to present on the first part the cause and effects of climate change, taking into consideration the Case of Sardinia.*

*First of all, I have wanted to show the Sardinia from historical, geographical, socio-economic point of view and the problem with the tourism. This situation has a strong effect in Sardinia, its climate is changing on coastal areas, and in fact are increasing the appearance of extreme events related to weather, sea storms, increased wave energy, the action of winds, rising sea levels, decreasing trend in rainfall and with the consequence reduction of the contribution of river sediments to the beaches. Why have I wanted to talk about Sardinia?*

*Because it is a region that has much to offer, but for many reasons hasn't found a solution. The main problem as well as of the effects of climate change is the relationship with the tourism in high season.*

*The tourism is concentrated only in one period, in the summer, this may mean that tourists don't visit the center areas to discover a less popular side of the island, which is characterized by its landscape, cultural heritage and traditions. We need to convince the tourists that exists other type of tourism, explore new culture and the adventure.*

*In this way, Sardinia it must give itself the chance to open the road at winter tourism, and exploit of the nature offers.*

### Keywords

Tourism, Climate change, Global warming, Sustainable tourism

### JEL Classification

L83, Q01

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### Introduction

The global climate is changing!

Climate change poses a threat to environmental and for social and economic aspect, especially the global warming can be mostly attributed to the emission of greenhouse gases produced by human activities.

In fact and unfortunately, the main sources of greenhouse gases are generated by humans: the use of burning of fossil fuels in power generation, transport, industry and domestic use, the changes of land use and waste dumps. European areas are particularly vulnerable to climate change, are varied and also differ according to their location and the effects that they may have in the territory. The effects of warming are increasing the heavy rains, with the consequence of floods and storms, and the rise of sea levels. It is said that this situation is very clear in the territories of Sardinia.

The most important problem is the connection with the tourism. Why?

An essential element about leisure travel demand is the degree of comfort or discomfort that the destination can offer to the traveller. Human comfort becomes harder to maintain once air temperatures exceed around 31 C. This "comfort factor" is also affected by other elements such as disease risk, extended rainfall and changes in extremes. These factors influence the travellers' choice of holiday destination.

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The introduction familiarizes the reader with the context of the paper. It should briefly summarize current literature and research, as well as the aim of the work presented in the paper.

### **The definition of climate change – some considerations and events**

Impacts of climate change can be roughly divided into three groups (FAO, 2007):

- *Biophysical effects*, is represented by sea level rise, changes to ocean salinity. This can increase storm frequencies and cause beach erosion, inundation of flood plains, destruction of coastal eco-systems, the total submersion of islands or coastal plains. Another problem is that temperature rise can cause coral bleaching and these can die. Need to say that there are the effects with the mountain regions: the snow is receding due to warmer winters, the ski season is becoming shorter, and there is greater precipitation during the winter months.
- *Physiological effects*: includes pasture, crops, forests and livestock: increased weed and pest challenges; shifts in spatial and temporal distribution of impacts.
- *Socio-economic effects*: this groups explain the reason of the declination in yields and production; the reduction of marginal GDP (Gross Domestic Product) from agriculture; fluctuations in world market prices; changes in geographical distribution of trade regimes; increased number of people at risk of hunger and food insecurity; migration and civil unrest.

Hence it's very important to concentrate the attention on the potential roles of adaptation and mitigation strategies, and their interactions, in responding to climate change. As defines IPCC (the Intergovernmental Panel on Climate Change) we speak about climate change when we refer to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. It may be due to natural internal or external processes such as modulations of the solar cycles, volcanic eruptions, and persistent anthropogenic changes in the composition of the atmosphere or in land use. The expected increase in the intensity and frequency of heat waves and floods is changing the distribution of some infectious diseases that are factors harmful to human health. Climate change is an additional pressure on ecosystems, causing negative effects on agriculture, forestry, energy, tourism, and infrastructure in general (IPCC, 2014a).

How we can see in the map, the risks are considered key due to high hazard, high vulnerability of societies and systems exposed, or both.

- The risk in Africa: increase in the future the problem of drought due to overexploitation and the stress on the water resources,
- In Europe: the lands will be affected by flooding in river basins and coasts,
- In Asia: increase of urban flooding with negative consequences to livelihoods and settlements,
- In Australasia: change in the structure of coral reef systems,
- In North-America: loss of ecosystem integrity,
- Central and South America: risk of flooding and landslides in urban and rural areas due to extreme precipitation,
- Polar regions: due to changes in ice will be risk for freshwater, terrestrial ecosystems and marine ecosystems,
- Small Islands: loss of coastal settlements, infrastructure, ecosystem services (IPCC, 2014b).

Member States and citizens can carry out practical actions, firstly, the European Union have to implement the Kyoto Protocol.

The Kyoto Protocol is an international treaty established in 1992 and extended in United Nations Framework Convention on Climate Change (UNFCCC): it commits State Parties to reduce greenhouse gases emissions, based on the assumption that global warming exists and that the CO<sub>2</sub> are caused by man (United Nations, 1998).

The main goal of the Kyoto Protocol is to control emissions of the anthropogenic (i.e., human-emitted) greenhouse gases (GHGs) in ways that reflect underlying national differences in GHG emissions, wealth, and capacity to make the reductions. So, it's important the requirement of increased use of renewable energy sources, such as wind, solar, water and biomass, and fuel renewables in the transport

sector, such as biofuels, and support for the development of technologies to capture and store carbon to trap and store the CO<sub>2</sub> emitted from power plants and other large facilities.

### **The situation in Sardinia**

Climate change and its impact on growth and development in recent years takes a central importance in the overall context of spatial planning. In this text we try to reflect this situation in particular in Sardinia, by pondering over the evidences of international studies, for example the PGRA reports and by working out specific indicators to analyse the territorial vulnerability, the risk of flood and desertification.

#### **The problem of the floods**

Sardinia has an area inclined to the phenomena of "hydro-geological instability", especially to the flooding, which represents the expression of natural events, and can be greatly amplified by both anthropogenic factors and climate change (RAS, 2014). The negative influence of human activities is expressed through the use of agro-pastoral practices are not always suitable to the territory; change or loss of use of the most appropriate techniques of hydraulic-forest, which are added to the loss of soil protection caused by arboreal vegetation caused by the numerous forest fires.

Because of the poor maintenance of the mountain stretches of the streams often affected by erosion and landslides, in Sardinia the higher critical parts are found in the valleys of the main river basins.

Particularly in the area of Cagliari and Pirri (suburb of Cagliari), it is possible to notice a constant frequency of serious events in terms of damages and victims and it's important to underline that the flood events in the area of Capoterra started in the years 50-60 (CLIMB, 2011).

The Plan Risk Management of Floods (PGRA) is a management and planning tools to pursue the management and assessment of flood risks in order to reduce the negative consequences for human health, for territory, for assets, the environment, cultural heritage and the economic and social activities caused from floods.

Since 2010 the PGRA adopted the proposal of "Management Plan flood risk"(RAS, 2010), Art. 7 of Legislative Decree no. 49/2010 and art. 13 of Legislative Decree no. 152/2006, with the deliberation of the Committee Institutional n. 1 of 07.30.2015; and its documentation for the Strategic Environmental Assessment, including the environmental report, the non-technical Summary and Evaluation of environmental impact.

The overall objective of PGRA is the reduction of adverse consequences associated with floods on human health, land, property, the environment, cultural heritage and the economic and social activities.

It involves all aspects of flood risk management, with particular reference to non-structural measures aimed at prevention, protection and preparedness against the occurrence of floods.

#### *The desertification*

The desertification is a type of land degradation in which a relatively dry land region becomes increasingly arid, typically losing its bodies of water as well as vegetation and wildlife. The desertification is negatively influencing the ecosystems, diminishing productivity potential of natural resources; it is causing environmental degradation and rapid land-use change. There is the loss of fertile soil, water exploitation, overgrazing and fires represent other important causes of the environmental problems on the island (CLIMB, 2011). There are three areas identified with an high desertification risk:

- North- East of the Campidano plane
- North of Gennargentu
- a very large area in the North-West of the Island

The level of desertification within the Sardinian territory is high: 46% of the area is highly degraded and 40% is on the edge of decay.

The consequence of this process is shown over the years, and assumes an irreversible character. Along with the erosion of the littoral is the progressive sterility of the land, resulting in the loss of value in the use and the production value of the land. The suggestion is that the Sardinia desertification

problem is a consequence, in a greater measure, of a global question. That is why the policies developed at the local level may not have the strength to fight against this phenomenon.

The impact should not be considered only in terms of soil loss. It should be also taken into account the potential number of people flooded or forced to move.

An important role will be played by erosion, desertification and storm surges that will impact seriously agricultural production through the loss of arable land. This will generate indirect economic and social impacts, as a collapse in agricultural productivity and a rise of unemployment in rural areas.

### **How does it the relationship between tourism and climate changing?**

*The definition of tourism.* There are different point of view, Anderson and Getz (2007) defines tourism as a mixed industry in which private firms, public agencies and non-profit associations, all of which co-exist in most societies, compete and collaborate in creating the final product for tourists; Smith (1991) explains tourism as a complex activity which includes the journey from and around a destination, with the purpose of utilizing particular attractions, accommodation, catering, entertainment, specialized and general services. We know that the tourism sector has an impact with positive and negative effects within the socio-cultural and environmental spheres. This becomes more evident when tourist activity is not adequately developed and planned.

How can we improve the situation? With the sustainable tourism.

The paradigm of sustainable development based on tourism is emerged in the last two decades. The term “sustainable tourism” encompasses a set of principles, policy prescriptions, and management methods which have favourite tourism development.

The original definition of sustainable tourism is connected to the idea of sustainable development. This is defined as the development that meets the needs of the present without compromising the ability of future generations to satisfy their own needs.

According to Tosun (2001) sustainable development based on tourism it should reduce inequality and poverty in local tourist destinations and increase regional and local economic growth. The original definition of sustainable tourism is connected to the idea of sustainable development. This is defined as the development that meets the needs of the present without compromising the ability of future generations to satisfy their own needs. Let's see the adaptation of special measures:

- to save natural resources and biodiversity, and the cultural heritage of host communities.
- the tourism enterprise have to think about their impact on the global environment, and the governments must appreciate the different positions of these stakeholders and work with them to achieve common goals.
- the workable solutions to protect the hinterland from flooding can include: a traditional response, that is the building of sea wall defences and breakwaters to protect the coast and its hinterland; or enhancement and preservation of natural defences; may be considered new building regulations to introduce other types of building material.

Sustainable tourism has the duty to satisfy the tourist and to guarantee a significant experience, with high awareness about sustainability issues. The real problem is the policy, policy-makers are relatively slow in responding to these concepts about the debate on the interpretation and implications of sustainability (UNEP, 2005).

### **The impact of the climate change with the tourism in Sardinia**

The tourism is an indispensable component in regional and local economies, and the climate change is putting at risk the tourism market. Seaside tourism seems likely to suffer damage from most of the effects of climate change, notably beach erosion, higher sea levels, greater damage from sea surges and storms, and reduced water supply. However, while some regions may see a diminution of demand from the leisure traveler, others - currently less important as tourism destinations - may see an increase. In mountain regions, it seems very probable that ultimately demand for winter sports will decrease.

The season will shorten, will decrease opportunities for young people to learn the sports, will increase demand pressures on high altitude resorts (which in turn could raise environmental pressures and cause further damage). Summer seasons, meanwhile, could lengthen, and generate increased demand, although this could bring further negative environmental consequences.

There will be important changes in the pattern of demand: will lead to wider impacts on many areas of economic and social policy - such as, for example, in employment and in regional policy issues such as housing, transport and social infrastructure. Knock-on effects could influence other sectors, such as agriculture supplying tourism demand, handicraft industries and local small business networks and so on. However, with the apparent exception of winter sports, unless climate change leads to a loss in demand for leisure tourism (which the conference did not identify explicitly as a risk), a loss of demand for a given destination or type of destination may well lead to increases in request for alternative destinations.

The results from such changes will depend on the ability of the tourism industry of raise the sustainability. The strong seasonality of beach tourism has to be taken into consideration, as it can be exacerbated by climate change. In many beach destinations the high tourist season coincides with low water regimes in dry seasons, aggravating water management and environmental issues.

Climate change adaptation can be implemented effectively in an integrated policy framework. UNWTO, UNEP and UNESCO support the idea that National tourism industry associations, grouping the medium and small size businesses, can have a role in manipulating or applying national policies. In the highly fragmented tourism sector tour operators can play a key role influencing a range of small tourism facilities.

The initiative of Tour Operators has developed a series of guidelines for environmental management of tourism establishment, including energy saving measures, and has also developed a series of destination partnership strategies.

Tour operators play a role in climate change mitigation as they bundle the products that are bought by tourists. While one could be argue that tourism is largely demand-driven, there is also a dimension of supplier influence, whereby tourists purchase the products they are offered.

Some tour operators can influence demand creating attractive products that satisfy tourists' needs. Such products could contain rail travel to the destination, and the hire of an energy efficient vehicle. Other options for tour operators are that tour operators already seek to increase average length of stay, for example through measures such as 'buy 6 nights, stay another night for free'.

### **About Sardinia**

Sardinia or in Italian 'Sardegna' is the second biggest island in the Mediterranean Sea (after Sicily), it is located west of the Italian Peninsula and south of Corsica.

The name Sardinia is from the pre-Roman noun \*sard-, and was romanised as sardus. This name was also used as adjective for the ancient Sardinian mythological hero-god Sardus Parter, means "Sardinian Father". Another name of Sardinia was Ichnusa, but we still have not been able to give an exact origin and meaning.

### *Geography*

Sardinia has over 1800km of unspoiled coastline, it is well-known for beautiful beaches, turquoise sea and fascinating rock formations, in fact is one of the most popular destinations for people who love seaside holidays and natural beauty. It does not exists only this, there is an interesting history of this island, in fact the most important villages were built during the period of the Roman domination and before that it was under the Phoenician-Punic domination. Some examples are: Karalis (Cagliari, the capital of Sardinia), Nora, Tharros, Olbia and Turrus Libissonis (Porto Torres) on the Northern coast of Sardinia.

The island has a Mediterranean climate. During the year there are approximately 135 days of sunshine, with a greater concentration of precipitations in the winter and autumn, some heavy showers in the spring and snowfalls in the highlands.

For the reason that Sardinia is relatively large and hilly, weather is not uniform; in particular the East-Sardinia is drier, but paradoxically it suffers the worst rainstorms. The driest part of the island is the gulf of Cagliari (with less than 450 mm per year), the minimum is Capo Carbonara (at the extreme south-east of the island with 381 mm) and the wettest is the top of Gennargentu Mountain (with almost 1500 mm per year).

The highest peak of Sardinia is Punta La Marmora, with 1834 m above sea level and the largest river is the Tirso (151 km long). Into the Sea of Sardinia flow the Coghina (115 km) and the Flumendosa

(127 km). There are 54 artificial lakes and dams that supply water and electricity. The main ones are Lake Omodeo and Lake Coghinas and the only natural freshwater lake is Baratz Lake.

#### *Socio-economic point of view*

Sardinia is one of the five Italian autonomous regions. Its statute is a constitutional law, means that it has the right to create its own laws in different areas and to carry out functions about regional administration. This large autonomy was necessary due to the specific situation of the island (<http://www.regione.sardegna.it/regione/giunta/>). In addition, the population of the island has a very strong regional identity, including its own language. Since 2005, Sardinia has been divided into 8 provinces, its local government is based on the Regional Assembly (Consiglio Regionale) and the Regional Executive (Giunta Regionale). The Regional Executive is headed by the President who is elected in direct elections; and it isn't necessary that President and the Executive have to be approved by the Regional Council.

#### *Language background*

The most widely spoken language on the island is the "Sardu", a distinct branch of the Romance Language. Since 1997 the "Sardu" it has been recognized as a minority language by regional and Italian law and in 2006 the regional administration has approved the use of a standardised writing system in official acts, so-called "Limba Sarda Comuna". There are different dialects, for example, Sardo Campidanese (spoken throughout the southern half of the island), Sardo Logudorese (from the northern-central region, extending almost to the suburbs of Sassari), Alguerés (is a dialect of Catalan in the city of the Alghero), and on the islands of San Pietro and Sant'Antioco (located in the extreme south west of Sardinia) speaks a variant of Liguria named Tabarchino (<http://www.sardegnaicultura.it/linguasarda/ilsardo/>).

Sardinian speakers thus account for 80% of the entire population of the island. There are, however clues that since 70' the families have stopped passing on their languages to their children. For not to lose these dialects, since the 50' the departments of Sardinian linguistics at the universities of Cagliari and Sassari offer courses in Sardinian linguistics, as have certain Departments of Romance Philology at other European universities (Bonn and Vienna, for example). (RAS, 2015)

#### *Economy*

The Sardinian economy is today concentrated on the tertiary sector (67.8% of employment), with commerce, services, information technology, public administration and the seaside tourism.

Sardinia has been traditionally associated with agricultural activities: livestock farming in the mountainous northern regions, crop farming in the southern plains and through the industrial sector of mining, based on the exploitation of coal, zinc, iron, silver, lead and bauxite, and extraction of granite. The area of the center-west to south is characterized by fertile Campidano plain, devoted to agriculture and commerce (Oristano province) and from the area of Sulcis, on the south, which historically has been the site of mining, and now doesn't manage to find a productive characterization and to give answers why emigration is still a phenomenon that afflicts this area and in particular, on the whole, Sardinia (RAS dati ISTAT, 2015).

The principal industries are chemicals (Porto Torres, Cagliari, Villacidro, Ottana), petrochemicals (Porto Torres, Sarroch), metalworking (Portoscuso, Portovesme, Villacidro), cement (Cagliari), pharmaceutical (Sassari), shipbuilding (Arbatax, Olbia, Porto Torres), oil rig construction (Arbatax), rail industry (Villacidro) and food (sugar refineries at Villasor and Oristano, dairy at Arborea, Macomer and Thiesi, first factory at Olbia).

In the main industrial sites are in progress plans related to industrial conversion, like in Porto Torres, where seven centres of research are developing the transformation from traditional fossil fuel related industry to an integrated production chain from vegetable oil using oleaginous seeds to bioplastics.

However, the economic crisis in Sardinia has had a very strong negative impact on industry. In fact, since the end of nineties the unemployment rate in Sardinia was decreasing, instead since 2008, due to the economic crisis, unemployment has been rising. In particular, in 2010, the employed workforce in

Sardinia was 685,000. 67.8% of the workforce were employed in the service sector, 23.5% in the industrial sector and the remaining 8.7% in agriculture.

The accelerated industrialization of the Sardinian economy had generated a rural migration to the new industrial centres, with the consequence of urbanization of the countryside. This it had reinforced the social and economic division of the island; on one side, there were the regions with a regional economic structure and in the other hand there were regions with local economic structures.

The gradual loss of human resources from the southern regions was caused by the increasing industrialization of the north, and this situation transferred the private capital and investments to the northern regions.

The Sardinian economy is limited due to the high costs of the transportation of goods and electricity, which is double that of the continental Italian regions, and triple that of the EU average.

In any case, agriculture and farming have a stronger role against to the Italian average, sheep farming and sheep products are particularly very significant to the regional economy. In addition, there is international trade, where the tourism has a rule key in the northern coast of the island.

### *Transportation*

About the transportation Sardinia has three international airports, Alghero Airport, Olbia-Costa Smeralda Airport and Cagliari-Elmas Airport connected with the principal Italian cities and many European destinations, mainly in the United Kingdom, Scandinavia, Spain and Germany, and two regional airports, Oristano-Fenosu Airport and Tortoli Airport (<http://www.regione.sardegna.it/argomenti/trasporti/>).

The ferry companies operating on the island are Tirrenia di Navigazione, Moby Lines, Corsica Ferries, SNAV, SNCM and CMN.

The Sardinian railway system was developed starting from the 19th century. Today there are two different railway operators: Trenitalia which connects the most populated towns, the main ports, and also the Italian peninsula through the use of Trenitalia and train ferries. The trains run on narrow-gauge track, are generally slow, due to the tortuosity of the lines, except for the electrified tram-train operating in the metropolitan areas of Sassari and Cagliari. There is also the Trenino Verde, is a rail tourism service operated by ARST Gestione Fds. It's vintage railcar and steam locomotives run through the wildest parts of the island. They allow the traveler to have scenic view impossible to see from the main roads.

## **VI. The tourism in Sardinia**

Sardinia in many ways is unique. Its character has remained authentic and strong. It is a land of great traditions and the cradle of an ancient culture. A culture which comes from contact with both the land and the sea, which for centuries has been a determining element in the life of Sardinia. Its sandy coasts and crystal-clear sea provide the perfect setting for unforgettable adventurous holidays, where the summer season lasts more than three months and instead for the people that prefer the winter season there are magnificent places on mountain ranges for excursions and trekking.

Visitors to the island who are passionate about archaeology will find a wealth of treasures, including ancient nuragic sites, such as Su Nuraxi in Barumini, and the mysterious Domus de Janas, where is possible to find all over the island.

In Sardinia Nuragic Age began about 4,000 years ago and has left many traces still clearly visible, through the construction of low stone, imposing stone towers, conical places of worship such as holy wells and bronzes processed with advanced construction techniques. Of the approximately 8,000 nuraghi scattered on the island, the complex in Barumini was recognized in 2000 UNESCO World Heritage Site.

Another great tradition, largely unchanged over the centuries and passed down through the generations is the gastronomy, a hugely important part of Sardinian life. There are many excellent products, of the highest quality, including pecorino cheese, made from sheep's milk, and good wines, such as the full-bodied reds, Cannonau and Monica and the whites Vermentino and Nuragus. Sardinian cuisine combines the freshest ingredients, with seasonal fruit and vegetables, which mostly come from smallholdings. The cuisine is as genuine and heartfelt as the traditions of the Sardinian people.

Unfortunately, for many tourists Sardinia is Costa Smeralda: a place of luxury resorts created from nothing and a few years are arisen in different parts of Sardinia a large number of hotels. This has created new job opportunities, but at the same time has been responsible for significant social and cultural change, in fact local people left the countryside to settle in the coastal municipalities.

The coastal areas are not the only parts of the island that drive the growth of the tourism in Sardinia, there are also many others areas that wouldn't want be used exclusively for farmland, because are able to offer fabulous holiday accommodation, such as Fonni and Oliena (<http://www.sardegnaturismo.it/it/articolo/sardegna-il-benessere-inizia-tavola>). The variety of solutions for finding a dream holiday location in Sardinia is extensive, ranging from a traditional hotel, to relaxing and basic rural retreats, bed and breakfasts and farmhouses. The island is small, so invites the exploration, which could include a combination of beach locations and its diversified countryside, with impressive mountain ranges, views stretching as far as the horizon, and wide plains covered in wild flowers in the Spring. There is really something for every taste, on this ancient and enchanting island.

Through the National Institute of Statistics (ISTAT, 2014) we find that in 2014 there is a fall about the trips to Italy (-15.2%), accounting for over three quarters of the total, while increases the foreign trip (+ 19.7%), due to the growth of business travel in EU countries (+ 23.8%).

The most popular destination in Europe are France and Spain, and Germany is instead the most visited country for business reasons (21.9%). In Italy, more than 10% of the long summer vacation is spent in Tuscany (13.2%) and Puglia (10.2%), while the favorite winter destinations are Trentino-Alto Adige (27.6%) and Lombardy (16,7%).

In the last years tourists prefer spend their holiday to the North, on the contrary of and the South, called "Mezzogiorno", includes the regions of Abruzzo, Basilicata, Calabria, Campania, Molise, Puglia, Sicily and Sardinia.

This confirm that there is still the dualism that sees the national economy of the South under develop that the Centre-North. It talks from years of development in the South, but the situation has not still changed and the most dramatic thing is that nobody takes charge of this.

So what can be done to revive the hospitality industry?

And the other consideration is that we can see that the reduction of travel is concentrated in the first half of the year: -17.5% between January and March, 11.9% between April and June, so continues the problem of the seasonality or in this particular case of 'destagionalization'.

The Mezzogiorno receives the long holiday market and it is clear that by "destagionalization" it has to win over the market for weekend through tourism promotion. Why the sun is not enough, neither the culture, the landscape and is not enough to print brochures or do press conferences in the most attractive cities in the world.

There is a definition of seasonality by Butler (1994): "a temporal imbalance in the phenomenon of tourism, [which] may be expressed in terms of dimensions of such elements as numbers of visitors, expenditure of visitors, traffic on highways and other forms of transportation, employment, and admissions to attractions"

By the fact that the seasonality is a problem for the tourism industry, we must study the causes and effects. Hylleberg (1992) gives his thoughts about the causes, he groups them into three main categories:

- the weather (for example, temperatures that can cause variations in tourism demand);
- the timetable temporal (religious holidays such as Christmas etc.);
- analysis of certain decisions (school holidays, the closure of offices and factories etc.).

Regarding the effects of seasonality in tourism we must think of the natural factors: climate change that are making substantial changes and everything is becoming less certain and predictable.

Economic impacts instead involve problems that are the results of a dead season, especially for the loss of profits related to the inefficient use of resources and facilities.

In receptive services, seasonal variations can cause lack of availability of beds during the high season with the consequent under-utilization of facilities during periods of low demand, and at the same time



the seasonality has important impacts on employment, since there is difficulties in recruitment and retention of full-time staff.

It says in the South the day of occupation of the hotels are few, that the climate is favorable in April and October, that there are many historical sites to see, that there aren't only beaches.

But despite that we continue to have these problems without thinking of the hospitality industry and unfortunately an example is Sardinia: its downfall in the tourism industry is due to the monopoly in connections, with the rising prices of ferries.

#### *Look back at Sardinia's situation.*

We can look at the work of CRENoS (Center for Economic Research North-South) and the Statistical Institute it is found that from 2013 there is a demand recovery compared to last year's situation. The process of internationalization of tourism in Sardinia continues (CRENOS, 2015): the foreign visitors are 46% in 2013 and only 29% in 2004 but are clearly in majority in the months of low season (April, May, June, September and October).

This process is useful from several points of view, for example the seasonal adjustment of the flows that allows a distribution of revenues and most consistent utilization rate throughout the year and is confirmed that the foreign tourists prefer the trend and the low season months. This could be the solution of the problem, which would reduce the concentration of tourists during the high season. But internationalization is also complementary to the location of the foreign markets of some products that express a strong identity of Sardinia.

According to the survey of CRENOS, most of the tourists interviewed prefer the Sardinia in contrast to other tourist destination, they feel satisfied of the vacation and want to revisit the next three years; but unfortunately the true is that the value for money of the service is perceived too high. This is certainly a sign that the Sardinian tourism is not perceived as an irreplaceable resources by customers and therefore must continue to compete in terms of price and quality of goods offered, without think on the beauty of the sea and landscapes that our Island is able to offer.

## **VII. The strong and weak point of the tourism in Sardinia**

Sardinia from the point of view of the institutions, education and innovation is a step back of European and Italian view.

It needs to follow growth, but this is unlikely without removing some structural obstacles such as the lack of human capital and skills, the fragmentation of the business structure, the weakness of infrastructure networks and the poor quality of institutions.

Sardinia has to change through sustainable economic development that combines tradition with innovation, and involving the exploitation and protection of natural resources.

The present policies still have a great importance on the fate of tourism and environmental resources and for this explanation they have to work on the strength points of this Island.

### **SWOT Analyse of the tourism in Sardinia**

**Table 1**

<b>STRENGTHS</b>	<b>WEAKENESS</b>
Sardinia is a leader among Italian destinations' exclusively "seaside resort" sold by international buyers	Tourism and cultural products aren't exploited economically
Is the most popular destinations airline	Lack of coordination between operators and low capacity of the system (fragmentation of supply)
Favorable geographical collocation	Insufficient consistency and functionality of accommodation establishments in terms of standard and comfort offered in low season
Importance of environmental, historical and cultural resources	Aspects of sustainability environment of pressure coasts caused by human
Internalization process	An uneven geographical distribution about tourism cultural analysis of museums and archaeological

	sites in the existing payment in the region
The climate helps farm production in advance than other regions of the Peninsula	Phenomenon of seasonality, the extreme concentration of flows in the peak months
Good place to start in the 'agrifood' and enological sector	Insufficient inclination to export local products and deficiencies in marketing system

Source: *The SWOT Analyse was performed by the author, based on own research*

#### *Let's look to the tourist*

Now for to understand the problem of tourism in Sardinia we have to talk about the Tourist and what he thinks. We can consider the quantitative analysis of TripAdvisor.com, its rating scale consists of five ordinal values (or stars), ranging from 'terrible' to 'excellent'. A separate mandatory overall rating summarizes the total customer satisfaction. In Booking.com a rating scale consists of numerical integer ordinal values, ranging from 1 to 10 (i.e. the higher the better), also tourists can make reviews. Look at this, we find that the destinations that not generally considered 'classic tourist destinations', are the Sulcis- Iglesiente, the Ogliastra and the Nuorese areas, while the more visited are Olbia-Tempio (27,8%) Sassari (24%) and Cagliari (20,6%).

The other four provinces (Nuoro 8,6%, Oristano 7,3%, Ogliastra 5%; Carbonia-Iglesias 4%) are well represented by tourism businesses; whilst the province of Medio Campidano is only represented by 3% of tourist enterprises.

In addition, analysis about tourist appreciation had revealed that 92% of reviews is referred to the coastal areas, while only less than 8% of popular tourism is found in the inland.

Nevertheless, the provinces of Nuoro and Medio Campidano provide 13% of the total number of review in inland.

This may mean that tourists like visit these areas to discover a less popular side of the island, which is characterized by its landscape, cultural heritage and traditions. However, in terms of number of tourists, this kind of tourism does not still compete with the preferences of the coastal area.

Because of the short seasons, many hoteliers for failure convenience to open in the winter months they are forced to increase the prices in high season. This is because hotels have seasonal high closing costs and they have to sustain this costs also when the store is closed, so their choice is to close. But how can we hope that tourists come in the low season if the place looks deserted and not functional?

In Sardinia, especially the small hotels are not able to support an efficient organization for the low season, so it is necessary to establish relations with the biggest tour operator in Europe that can guarantee a flow planned.

There is an example that we can consider: the Hotel Victoria Tortoli in Ogliastra.

This Hotel has decided to follow the choices made by Consortium of Hoteliers. This has made very specific selections: medium-high quality of supply (most hotels to three or four stars), and frequent contact with the professional tour operators, it struggle to solve the problem of transport, which is fundamental for the Sardinian tourism.

Following this example, the low season can also use its marketing tools:

- an educational tour in the last days of September
- special packages and competitive prices nationally sponsored;
- excursions and entertainment guaranteed if only for the weekend;
- enhancement of the airport of Tortoli and agreements with carriers, including the Meridiana is particularly working to create economic packages.

The lack of tourism in the low season does not depend only on climatic conditions but also by the lack of planning of measures, from tourism to transport, and is necessary a connection for promotion (Fois).

The low season needs to be tackled with precise schedules and marketing strategies.

Some possible solutions could be found through the marketing-mix for the low season:

- they must adjust to purchasing attitudes and demand flows.
- an attractive package and well communicated through the proper channels can guarantee margins more than satisfactory with no high prices, if its offer meets the real needs of tourists.

- they must connect to the movements of large groups sent by tour operators, businesses, the elderly or other categories socially protected submitted by public bodies. It is true that in these cases, prices must be really low and competitive, because there are interesting offers from the regions that have been already organized for the low season.
- the price of transport: influences heavily the final price of the holiday. Consortia and government agencies must begin a system of agreements with airlines and maritime adapted to the needs of tourism.
- there is the need to find own town, in the district, the hotel, in our imagination something special that gives light to the tourist product.

Finally, we can say that the principle of seasonality affects both who offer but also who ask for tourism, in fact in the eyes of tourists there isn't still a tourist offer during the low season.

Bearing in mind that we must have availability of two factors such as time and economic resources it have to avoid producing identical models of reception.

Sardinia has a strong diversification of resources which should be exploited to a tourism policy oriented to build an image that identifies the uniqueness of the Island.

### **Conclusion**

From my point of view the best solution would be to create a standard regional hospitality system that connects an help desk about tours inside of municipalities for to involve the community in the promotion and marketing of destination Sardinia.

They must make an intelligent use of the Internet with the aim of promote through innovative projects, shared and coordinated by a regional social media team with professionals.

They have to create a calendar of events, but avoiding overlapping of dates, which unfortunately is what often happens and many tourists have to give up to participate an event because is on the same day of another.

It would be a good idea to create a school for the creation of professional skills required in the management of all processes, from communication to the dining room service.

It needs to attract foreign investment with certain rules and not having instead the only purpose of not being able to manage the flow of money.

We must create a modern tourist model in Sardinia, but is impossible until there is a policy that does not want to focus on culture and tourism. The problem is that people criticize foreign investors who are now occupying the Sardinia because they bring their money off the island, but the same people tolerate and encourage multinationals French supermarkets. I don't understand this.

### **One last point: why tourists should choose Sardinian hinterland?**

The long history of the island brought the Sardinians to seek safety to the mountains: the inhabitants of Barbagia consider themselves the only true SARDI.

So, it's a good idea to create a promotional and presentation activities, commercialization of what there could also motivate the tourism in other seasons.

I don't want to say that in the island it hasn't made anything, but it only the beginning.

Since two years were started the "Cortes Apertas", where all the old houses of the countries are opened to the public: people offer the sweets, they show their customs and traditions. It would be better to have a translator-guides who accompany tourists and tell them the story. And not only, another thing to attract the attention of tourists could be: create activities such as bird watching, observing fully the nature with long walks.

*As M. Antrop (2000) said, "the spirit of the place corresponds to" landscape character ", the important thing is to keep unblemished the cultural identity.*

*Sardinia is this and much more*

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