

SUSTAINABLE TOURISM: SUSTAINABLE INDICATORS- THE CASE STUDY OF TRÓIA PENINSULA – PORTUGAL

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ABSTRACT

Promoting sustainable tourism is an important factor for any regional development. The Tróia Peninsula is located in the Alentejo Region in Portugal, one of the poorest regions of the European Union.

The aim of this paper is to measure sustainable tourism on Tróia Peninsula, in the present and to attempt to forecast the impact of a relevant tourist project – Tróia Resort.

The objective is studying the present in order to predict the future, attending the massive process of investment, which will change the model of tourism activity in Troia Peninsula and identify the best-suited indicators to measure and predict the long-term sustainability.

The sustainable tourism will be measured through several sustainability indicators organized in three main dimensions: economic, environmental and social-cultural.

After the conclusion of Tróia Resort Project, the tourist offer in the area will be about 7250 beds distributed in four different nucleus of occupation: the urban nucleus, the beach zone with a tourist village, the resort hotel, and the village eco-resort, which represents a significant increase in tourist supply.

This new project represents an important opportunity to develop this area but the economic, social and environmental harmony might be the greatest challenge to Tróia Peninsula.

PALAVRAS CHAVE: Turismo Sustentável, Desenvolvimento Sustentável, Indicadores de Sustentabilidade.

KEY WORDS: Sustainable Tourism; Sustainable Development; Sustainable Indicators.

1 - INTRODUCTION

The tourism sector is now one of the most important sectors of human activity and truly the more passionate one. For many people it's the most exciting activity while others accused the sector of destruction of the local cultures, degradation of the environment, and standardized the way of live. The tourism may also be an instrument of conservation and rehabilitation of national, regional or even local identity. It's very important to not forget that the efficient economic project, which is unacceptable on social way and undesired on environmental condition, is not sustainable.

The environment is determinant to tourist offer. The adequate planning and implementation of tourist strategy allows the tourist activity to be a force of sustainable development, not a force of destruction.

On this paper we will present an objective of our study, then the methodology, a conceptual involvement and finally the case study considering the evaluation of sustainability through chosen sustainable indicators of the tourism space-Tróia.

Falta o resto do trabalho que depois será referenciado aqui.

1 – MOTIVATION AND OBJECTIVE OF INVESTIGATION.

The objective of this paper is to evaluate the tourism activity on Tróia using some of the sustainability indicators of these three dimensions below:

- Economic
- Social
- Enviromental

We want to study the actual situation and anticipate the impacts of massive investment planned for that region, which will change the actual tourist activity model.

2 – METHODOLOGY

We will use the case study methodology. Following the Bell (1977), this methodology allows the investigator to concentrate on one situation in order to identify the involved interactive process. A case study involved the empiric investigation, string component of fieldwork appealing many sources and documents, interview, direct observations and physics artefacts (Yin, 1994).

This paper aspires to approach the tourist phenomena on Tróia Peninsula. To achieve that goal it was used the documental analyses, fieldwork during the January and March 2006, questionnaires for tourists and local population, direct interviews of local administration and other social agents.

3 –CONCEPTUAL ASPECTS INVOLVED ON THIS STUDY

The development process is multi-dimensional in which the economic growth, social cohesions and environmental protections have to be considered. The investigation about the better way to achieve all those dimensions has evaluated considerably during the past few years.

3.1 – THE EVOLUTION OF DEVELOPMENT CONCEPT

During the 50's and the 60's there were developed many concepts about the economic growth especially after the Kuznets and Lewis theory contribution, which developed many works on the 50's. They proposed the "trickle down" paradigm, which means that the development process tends to be harmonious and investment on some sectors, regions or social groups spin off growth of other sectors (Amaral et al., 1994)

Rostov (1977) was also one the great defenders of this model of development. He considered that the industrial sector is that, which allows the high levels of productivity, wages and savings allowing the increase of income per capita. This modern sector was associated to development while the traditional was considered as an obstacle for the first one. From this point of view, the development process is in the beginning a transfer of labour force from traditional to modern sectors of activities, which originally might aggravate the income inequalities (before sectors, regions and social groups) and progressively suffer an inversion. On this period the idea of development was connected to the concept of economic growth, but following Lopes (1987) those two concepts are distinct because the development is an objective while the economic growth is the way to achieve this objective.

In the 70's there are some new ideas about the development concept. It is important to consider two contributes. One is a creation of the United Nation Commission for Environment and Development (UNCED) on Stockholm Conference, which presented a new concept of development, the Environmental Development. The second contribution was Roma Club that has done some investigations, especially about the energy resources and its use, about the quality of live because of the problems in economics growth. In the middle of the 70's the concept of development was centred on the satisfaction of basic necessities like (food, cloth, house health and alphabetization) and redistribution of income for the poorest courtiers.

From the beginning of the 80's it was clearer that the development of each country was impossible keeping the internal regional asymmetries. The accelerated economic growth didn't reduce the existent gap between the developed and developing courtiers as was expected.

The concept of sustainable development appears in 1987 on Brundtland Report in which it was shown the concern about the satisfaction off actual necessities respecting the future generation necessities. The primary condition for the harmonious development is a necessity to coordination of satisfaction of present necessities with the regeneration capacity of the natural ecosystem.

3.2 – DEVELOPMENT ON REGIONAL AND LOCAL LEVELS

Economic development isn't homogeneous. In every country there are some regions more developed than others. The central government has a goal: don't accentuate those differences. Following Amaral et al. (1994) the lowest level of development of some regions is pressured by velocity of development of richest regions. Because of that it's possible to identify two contradictory results: the positive, which consists in developing the poorest regions through market enlargement, new investments and emerging of new opportunities, and the negative, which concerns the disappearance of the labour force from those poorest regions. The consequence of this disappearance is the abandoned peripheries with social problems, the increase of unemployment, edged population and poorest productive structure.

Those undesired effects also pressured the more developed regions through the negative externalities like overcrowding creating obstacles for multidimensional development and sustainability of all regions.

On this background, the new concept of development considers all potentialities of territory and takes a special attention for the people, which live there. Those people take care of themselves developing simultaneously their particular identity.

It was recognised by many international organizations, which started to recommend the greater participation of all parts of local communities.

This conduces on the eighties the appearance of the participative development concept in which the idea of satisfaction of necessities depends on the capacity to create the response mechanisms by the local population.

Friedman (1992) introduced the concept of empowerment into the participative development concept and pointed as crucial the importance of citizenship and quality of life for any developed society.

3.3 – SUSTENIBLE DEVELOPMENT AND TOURISM

The tourism activity might be an opportunity for development on many regions. Following Matos da Silva (2002), the tourism activity appears as a strategy of development for many Portuguese regions. He indicates three main factors to support his idea:

- Disappearance of the many traditional activities as a consequence of re-structure of national and international movements;
- Dynamism of tourist demand specially on quality and diversification item;
- Valorisation and reinforcement of environmental and cultural characteristics.

Licínio Cunha (1997) describes reasons, which make tourism an engine of regional development and economic expansion such as:

- Existence of local values, which grants tourist attention - development activities connected to these characteristics, is a leverage of economic expansion.
- Trough tourism activity it's possible to transfer income from rich to poor regions.
- Tourism activity develops infrastructures and other equipments, which may also be used by local populations.
- Tourism contributes for modernization and also agricultures and industrial local zones supplying products and services to the tourist activities.

The Cooper et al. (1999) defends that considering the sustainable development in tourism it's important to pay attention to areas such as:

- A conscience of basic premises for policy of sustainable development on tourism:
 - Premise of “Interdependency” due the cause-effect relationships between tourism and other sectors of activity;
 - Premise of “ Multidisciplinary” because promoting the sustainable tourism involves promoting sustainability in many other sectors;
 - Premise of “ Previous Experience” which allows, trough other experiences, to avoid errors;
 - Premise of “ Natural is Better” in order to avoid many excesses on ecosystems;
 - Premise of “ Policy and Power “, many times the most powerful doesn't contribute with sustainable politics;
- A knowledge of critical areas for sustainable development in tourism such as:
 - A definition of what is relevant to the local population;
 - A definition of immediate programs which allow more efficient control of recourse exploitations;
 - A true comprehension of sustainability concept;
 - A definition of valorous subjacent to sustainable development.
- Form of allocation of relative responsibilities for sustainable development;
- An establishment in the suggestion agenda for sustainable development actions for tourism sector in order to coordinate the regional development of tourism activity.

Following Baptista (2003) competitiveness and sustainability assumes a necessity of cultural and compartmental changes. This change has to achieve many levels, not only the company and institutional responsibility but also teachers, students and all citizens' level.

II PART- CASE STUDY

1. TOURIST ENVIRONMENT: TRÓIA PENINSULA

Peninsula of Tróia is a strip of sand of about 18km long and 1,5km wide on the left bank of the Sado estuary, facing Setúbal bay from south.

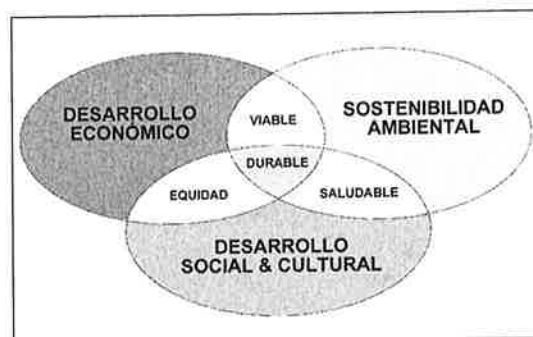
Tróia is presently going trough a massive process of investment, changing radically the model of tourism activity that prevailed there for more than 30 years, but that was never concluded. The former project was constituted by five big tower hotels directed to sun-beach mass tourism, offering little more tourism attractions than beach and golf.

After the nineties crisis, that lead to the bankruptcy of the firm exploiting the area, the biggest Portuguese private group bought the infrastructures and the rights of exploitation of the space and is now trying to develop a completely different tourism project directed to the second house segment and to high revenue tourists segment. To do so, the present project predicts to reduce the tourists density (by demolishing two of the former unconcluded towers and recovering existing hotels), yet increasing the total area of occupation with new type of lodgment infra-structures like second houses, apartments and apart-hotels, eco-resorts, complemented with several other facilities diversifying the tourism attractions: marine, casino, congress centre, swimming-pools...The focus of the present project is to promote environmental and urban rehabilitation of the space,

underlining the natural quality of the space conditions, attracting tourists to a well preserved and high quality natural space. In conclusion, it can be said that the present project highlights the natural quality of the area, the quality and sustainability of the tourism offer being built-up there. Tróia main attractions are the weather, the beach, water sports and activities, golf (considered one of the most difficult and beautiful courts in all of Europe), local gastronomy, local population hospitality, roman ruins (Tróia had an important roman presence), ecological diversity (namely the dune and estuarine ecosystems that constitute privileged habitats for unique botanic species, water birds and a threatened dolphin community living in the estuary), as well as other natural attractions and traditional activities (like rice fields, sea salt tanks, wood traditional fishing harbor) near Tróia.

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The current economic growth model generates a lot of problems: ecological, social and economic. This necessarily entails a change in the social, environmental and economic policies, where the development of policies based on a new culture, a different set of values and a new way of understanding the relationship between humankind and the rest of the biosphere should prevail. And, above all, a commitment to the future that leads to new proposals on environmental management. Along with these changes a new concept arises: sustainability. One of the first definitions available is the one laid down in the Bruntland Report (1987), according to which, sustainable development shall meet the needs of the present without compromising the ability of future generations to meet their own needs.



1. Sustainable development outline

[Purple: economic development; Yellow: environmental sustainability; Green: social & cultural development; White on top: feasible; White on the left: equity; White on the right: healthy; Blue: lasting]

Sustainable development, therefore, refers to the rational use of natural resources in a certain place, making sure they are not diminished and exhausted and that future generations can make good use of them the same way we can. Within the concept of Sustainable Development we can identify three dimensions:

Environmental Sustainability, which ensures development is compatible with the conservation of essential ecological processes, biological diversity and resources.

Social and cultural sustainability, which guarantees that Sustainable Development increases the control the population has over their quality of life, that it is compatible with the culture and values of the population and maintains and reinforces the local community identity.

Economic Sustainability, which guarantees development is economically efficient, that it benefits all the stakeholders in the tourist destination and that resources are managed locally so that they can be passed on to future generations.

Bearing in mind the three dimensions we can conclude that poorly managed Tourism has led, in many occasions, to the deterioration of the environment, to diminish the sociocultural level and to unfair economic distribution. Therefore, the term Sustainable Tourism comes from the concept of Sustainable Development.

The WTO (World Tourism Organization), based on the definition for Sustainable Development established by the previously mentioned Brundtland Report, states that: "Sustainable Tourism development meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity, and life support systems".

One of the key goals of Sustainable Tourism is to last in time. To fulfil this goal, it is required to achieve maximum profitability all the while protecting the natural resources that support it. In this sense, the concept of Sustainable Tourism is set within the framework of development without depleting resources, and therefore, conserving them.

In 2004 the WTO stated that "guidelines for sustainable tourism development and management practices are applicable to every form of tourism in every kind of destination, including mass tourism and the different tourist segments". Sustainable principles refer to environmental economic and sociocultural aspects of tourist development. An appropriate balance among all these aspects is needed to ensure its sustainability in the long term.

In order to analyse the sustainability of Tróia some indicators have been chosen considering all suitability dimensions, such as:

SUSTAINABILITY INDICATORS

Dimension	Resource	Indicator
1.Economic	1.1 Client's satisfaction with regards to services and prices	Qualitative indicators
	1.2 Level of existing tourist infrastructure	Present and future infrastructures

	1.3 Seasonability of the activity	Concentration of demand (%) on high season
2. Environmental	2.1 Water pollution	Sources of water pollution and waste water treatment
	2.2 Water uses	Water consume
	2.3 Biodiversity	Species and ecosystems
	2.4 Beaches	Number of beaches with the European blue flag award
	2.5 Protected Area	% of protected area of the total TE
3. Socio-cultural	3.1 Social services and facilities	Quantity and quality of public services and facilities
	3.2 Social legal protection	Legal protection
	3.3 Cultural heritage	Number of heritage assets and preservation state
	3.4 Cultural traditions	Traditional activities
	3.5 Awareness	Qualitative indicator
	3.6 Landscape	Landscape quality and impact of tourism activity infrastructures

This set of indicators was chosen from a vast list of possible indicators, proposed by theoretical methods and tourism and sustainable development institutions, with the double objective of enabling the evaluation of Tróia in the several dimensions of what is considered to be sustainable tourism activity and also to guarantee the availability of data in observation. The international comparability of results was also bared in mind when the indicators were selected.

The set of indicators selected enabled us to draw a generic portrait of the tourism space in the following dimensions:

- General characterisation of the TE;
- Political and institutional aspects;
- Economic aspects of the TE;
- Environmental aspects of the TE;
- Social aspects of the TE.

In what concerns the economic aspects of the TE, it seemed important to shed some light in the economic structure and the consumption and production patterns of the region, emphasizing tourism activity.

Environmental aspects are, as would be expected, the bulk of the indicators selected. Regarding environmental aspects, it seemed inevitable to address natural resources, land, water resources and biodiversity.

Finally, the social aspects more often related with sustainability are population pressures, landscape, cultural impacts and local population and economic agents awareness towards sustainable development issues.

The indicators were selected with the aim of examining to what extent the commonly agreed principles of sustainable tourism are in presence in the TE:

- Sustainability framework, policies and performance;
- Natural resources focus;
- Interpretation and education;
- Contribution to natural, patrimonial and cultural conservation/ rehabilitation;
- Cultural respect and sensitivity (ensure and promote cultural local values);
- Local communities orientation (privileging purchase of local goods and services and employment of local staff);
- Environmental compatible infrastructure (landscape, visual and cultural amenity and sustainable construction plans)
- Environmental sustainable practices (environmental management plans, waste minimisation; energy efficiency; water conservation; wastewater treatment; biodiversity conservation; noise);
- Customer satisfaction (sustainable tourism quality experiences);

1. Economic Dimension

1.2 Client's satisfaction with regard to services and prices

In order to evaluate the client's satisfaction a questionnaire was made. We found that the majority of individuals don't find themselves pleased with Tróia current service set (this tendency is appraised by the answers to the question "Are you pleased with the number of services currently present in Tróia?" where all answers were negative). This showed us the first obstacle in the client/consumer satisfaction– the scarce quantity of services. The apparent lack of investment in the peninsula in recent past and the preparations being made for Sonae's latest project has lead to a large-scale abandon of the services infrastructure; mainly in Tróia primary zone (the zone near the ferry dock). To all of our subjects, the lack in number of services is impossible to hide.

Exploring deeper within the existing services, most of the people interviewed revealed that the actual lodging prices are not in accordance with the current quality of the service like the ferry boats because the people rather think of their income instead of thinking about this as a service, that is after all a business, strongly affected by seasonability, since its largest share of profit is depending of the summertime.

The people were very critical about the quality of beaches. They pointed problems like a real lack of security, or a lack of showing that security is being enforced, the cleanness of beaches and a high price to rent a parasol.

In a more open question we asked the interviewed to prioritize a list of services to develop in Tróia. The chosen replies found truly important the following services: restaurants; supermarkets and healthcare services.

The last point of this survey was directed to the people's knowledge and opinion about the project Sonae is developing in Tróia. The answers had been almost always given

with rapidity and certainty, yes. The great majority of people knows this investment of Sonae Company and finds it to be a good investment. Still, there were some individuals that didn't know the project, but all the same, they considered it a good investment. This suggests that the people in Setúbal are worried about the development of the area, independently of who is investing, and that to someone who usually spends their vacation it is very important that it builds up more value and conditions so that they'll be able to enjoy their stay there.

2. Level of existing tourist infrastructure

The present of Tróia Peninsula

Although Tróia traditionally offered a great variety of tourist attractions supporting unforgettable free times, nowadays it is suffering a huge process of investment and its supply is drastically reduced to the activity of one hotel, with its facilities, and the golf, since all other attractions like restaurants, coffees and bars, swimming-pools complex, football training fields, tennis club...have been suspended. The present investment project is a long-term project, with several phases, and the first phase will not be concluded before 2008.

The expected tendency to this indicator is very positive with the current renewal (upgrading its star classification) of some hotel units and the construction of new hotels (which, however, will increase the total number of beds and consequently human pressure on the space), such as, the five star golf resort hotel and the Eco-resort. This bet on first class services is expected to increase the peninsula attractiveness.

After the project conclusion, the new resort will be offering 7250 beds distributed in four different nucleus of occupation: the urban nucleus, the one with more urban occupation, the beach zone with a tourist village and an area of second residence, the "resort hotel" that will be destined basically to the business market (this hotel will have a meeting centre room and a gymnasium) and the golf course that already exists. Finally, the village "eco-resort" area, that will have small wood houses in an area characterised by its tranquillity and natural surround (those who choose this place will only be allowed to walk by foot, bike or horse, and will not have air-conditioning equipment).

Gastronomy

The region of Tróia is located in an area where two very distinct gastronomic traditions converge: the coastal tradition where fish and sea-shell dishes predominate, and the rural interior tradition, where the food is already strongly influenced by Alentejo gastronomy.

Tróia used to offer many good restaurants in wonderful places near the sea and the beaches, where visitors could eat freshly caught fish and other delicious dishes. However they have presently disappeared.

From the present project we can expect an increase in the number of restaurants, since it is to expect a big increase in the number of visitors. The promise is that restaurants will serve all different kinds of visitors.

Tróia Golf

Tróia's Golf has a very good reputation among the modality fans, due to its beauty, evolving along the beach and sea, and its high difficulty level. The golf field presents few greens, when compared with other fields, since it is much modulated and protected by *bunkers, fairways narrows* and is encircled by dunes and pines, offering a true challenge to the ability of the players.

The Access

There are two options to take when visiting the Tróia Peninsula: the visitor can arrive by sea (crossing the river from Setúbal) or by road from the south side of the peninsula.

Places to Visit

Although beaches and golf are presently the main attractions, visitors still have some other places to enrich their stay:

Chapel of Nossa Senhora de Tróia - a lot of historic documents have been discovered mentioning the chapel and a peregrination that has been celebrated for more than five hundred years. The little chapel in the middle of the “Caldeira of Tróia” is still a spot of peregrination of religious people from Setúbal, that every August make a procession to “Nossa Senhora de Tróia” by river.

Ferry-boat Quay.

The Current quay of ferryboats is the only links of connection between Tróia and Setúbal.

With the new Project the present ferry boat pier will be moved away from its present location to the other inside extremity of the peninsula, in order to reduce the automobile traffic in the resort and to improve its environment quality (air quality, noise, security).

The construction of the new quay will require about two years. However, the new location of the pier was a very controversial decision, since its construction and future functioning may generate significant environmental negative impacts, specially on the dolphin community living, feeding and reproducing in the estuary, as well as negative social impacts in the population of Setúbal who wants to go to beach – according to the project the present quay will still be used for passengers, but some sceptical voices have been questioning this statement, since that’s the proposed location for the new marine.

THE FUTURE IN TRÓIA

Tróia Peninsula goes to continue to offer us a diversity of space pass wonderful free times, with development the project of “Sonae Tourism”.

The Structure of Project “Sonae Tourism”

The Sonae Eco Resort Project is presented in line with the objectives of economic and social development of this region. The project is divided in four UNOPs (Operations Management and Planing Units):

With this investment it is foreseen a substantial increase in total beds, reaching approximately seven thousand beds. According to the opinion of the national authorities the accomplishment of this project will have considerable socio-economic benefits in local and regional development, both in terms of job creation and human recourses qualifications, contributing to a significant reduction of the unemployment rate in Grândola, Alcácer do Sal and Setúbal.

The Marine

The local for the new marine is situated in the north of Tróia, the tip of the cost well in the interior estuary. The construction of the new Marine will enlarge the actual offer of Setúbal and Arrábida marines, presenting an additional risk factor for the dolphins, which will have to face the perturbation caused by water sports.

Some studies elaborated by marine biologists concluded that the new marine and the new location of the ferries pier both coincide precisely with the most frequented area by the dolphins.

The New Ferries Pier

The new “ferries” terminal of Tróia is located about 4, 7 km south-east of the actual terminal, is complemented with one support and ticket office building and will include one zone for car parking, keeping the actual local for passengers disembarkation.

The idea of changing the ferries terminal had two justifications:

1. To guarantee better security conditions for the marine and the maintenance of passengers “ferries”.
2. To diminish traffic in the north area of the peninsula (the higher density UNOP) reducing noise and atmospheric pollution levels as well as risk for pedestrians.

Seasonability of the activity

It wasn't possible to obtain information about seasonability of tourism activity in Tróia solely considered. Yet the information about seasonability of all hotels in the Costa Azul Region, to which Tróia belongs, shows a high concentration of demand in July, August and September, reflecting the excessive dependency of the sun-beach's tourism product.

The original idea behind the Tróia Resort project is to mitigate this high seasonability, through the diversification of supply and tourism attractions.

3. Environnemental Dimension

Water Pollution

In Tróia there are no industrial activities in the tourism space, for which reason the water wastes are similar to urban waste, produced by tourists and residents in hotels and apartments, and also by the service sector, like coffees and restaurants.

The lack of sewage treatment, both in Tróia and in the city of Setúbal and the presence of heavy industry on the other side of the estuary, namely naval, chemical, energy, paper and cement industries, are the main sources of water pollution in the tourism space.

The bathing waters in the municipality of Grândola, in which the peninsula of Tróia is included, are considered of good quality in all beaches. Despite that, only the Tróia Mar beach received the European Blue Flag award, since the Blue Flag is attributed on the basis of the quality of the water, but also on the quality of the sands (that in Tróia possess a low level of contamination) and the availability of beach support facilities, which are missing in most of the peninsula beaches.

Water Uses

The water presently consumed in the actual infra-structures, is caught directly of an underground leaf under the peninsula.

It's possible to say that:

- there aren't significant concerns about water uses, first of all because there's no economic incentive, since the water is “free”;
- there are no good practices in what concerns tourists education and information about good water use practices;
- golf represents the huge amount of water consume ;

- there are no water effluent treatment infra-structures (effluents are sent off directly to the sea)

The present development project predicts, however, some improvements, namely in what concerns the irrigation of the golf field with treated wasted water from the hotels. Notwithstanding, we could not find any mention to the use of the more environmentally friend technologies available, like water saving tabs, reuse of water to green spaces irrigation, wasted water treatment...

Biodiversity: Species and Ecosystems

The peninsula is a unique habitat for some botanic and animal species being used by Sonae as a tourist attraction ("An ideal environment for some days away from everything, but close to the nature"). By using such a strategy, Sonae intends to inform the visitors about the important of respecting the natural landmark in which the future tourism complex will be located, since the majority of the local species, animal and botanic, is protected by different (national and European) regulations that have conditioned the approval and the development of the project.

The Botanical Reserve of Tróia Dunes was created taking into consideration its good state of conservation and the natural vegetation of the dunes formations, in which we find several Portuguese endemic species. The fauna we can find in the different areas of the Tróia resort project includes a wide number of species: just in the Natural Reserve of the Sado River 261 different species of animals have been registered, which reveals its biodiversity richness.

The construction of the new ferry-boat port and the marine are the most polemic for the biodiversity, since these are the ones that most affect the marine ecosystems, specially the already threatened dolphin community and new construction projects near the dune system have also been under criticism.

Beaches: number of beaches with the European blue flag award

The peninsula of Tróia, offers a big diversity of white sand and crystalline seawater beaches. Almost everyone has been awarded by the European Blue Flag Award.

With the accomplishment of Tróia Resort project, the tendency is to create new access to the beaches, new ecologic means of transport to the beaches (like bikes, bus and pedestrian tracks, discouraging the cars use, improving the peninsula environmental quality).

About the different activities that can be done on the beaches, like football, rugby and volley, they shall be increased with new ones, like surf schools, yoga classes and other sports.

Protected Area

About 40% of the Tróia Peninsula is a protected area, including the Dunes Ecological Reserve of Tróia and the Natural Reserve of the Sado Estuary¹.

¹The Nature Reserve of the Sado Estuary created in 1989 covers an enormous area of 23,160 hectares. It was created to conserve nature and preserve values found in and around this magnificent estuary. From a natural point of view, this protected area presents a huge ecological contribution with vegetation extending as far as the salty water at the river mouth, marshes, loam which comes and goes with the tide and the many species contained there.

3 Socio-cultural Dimension

Quantity of Public Services and Facilities

All visitors have at their service a bank dependency, a police station, (GNR) and a medical centre. In Tróia we will find TOTTA bank, one of the most known banks in our country. The visitors won't have the need to leave the peninsula, to solve their bank problems, or any problem of security since the GNR station is in centre of Tróia. Both services are easy to find.

The desired tendency to these indicators is the increase in the number and quality of services provided to visitors for a better service to the new visitors. It was also made the questionnaire to evaluate the quality of public services and facilities. The people said that the quality of accommodation are reasonable in Tróia, they weren't sure about the improvement of quality of new project, generally agreeing with the dislocation of cars from Tróia and the use of more ecological transports, but very sceptical considering the localization of the ferry boat's new platform.

Considering the other facilities the better evaluated was the gastronomy facility, the worst, the deforestation and night life.

Legal Protection

Given its biological richness and importance for several migrating species during the winter and nesting seasons (concentrating more than 20,000 aquatic birds), the Sado Estuary – one of the three most important Portuguese wet zones for aquatic birds - benefits of the national statute of Natural Reserve and received the statute of wet zone with international importance.

Cultural: Number of heritage assets and preservation state

The industrial roman ruin complex at Tróia

The remains of the roman occupation dating from the 1st century B.C. to the 5th century A.C. are found between the Sado River and Caldeira² on the east edge of the peninsula on the left side of the estuary. This archaeological heritage, one of the most important of its kind in Portugal, is supposed to have been the largest sea product storehouse complex of the Iberian Peninsula. Through the years it has been left to decay, without any support, which explains its current state – vandalized and unprotected.

The complex of Tróia, while it was a great industrial centre, depended on the goods that came from the right side of the river, and for this it's natural that the movement inside the estuary was relatively intense. In 1910, the ruins were recognized as National Monument. With the development of Sonae's Tróia Resort Project, this heritage asset will be an important tourist attraction; bottom line: if propelled correctly, Tróia will have a lot to offer when it comes to leisure and historical heritage.

Traditional activities

Given the relatively isolated location of the peninsula, and the low number of people living there permanently, there aren't significant traditional activities. However some are still worth mentioning the religious festival in honour of "Nossa Senhora de Tróia", There are strong evidences that this religious festival has been celebrated for more than 500 years. The festival is organized by a commission of fishermen and by the local

² Caldeira is the habitat of many marine animals and birds.

population connected to the sea and occurs in August (the first weekend). The statue of “Nossa Senhora de Tróia” is taken by sea, from the Church of S. Sebastião until the small church in Caldeira, a small bay in the peninsula of Tróia, in a religious procession.

- One of Tróia’s greatest characteristics is undoubtedly its long sand shore, considered the strongest factor for tourists’ attraction. There are several beaches, such as *Galé*, *Atlântica*, *Sol Tróia*, *Troiamar*, *Costa da Galé*, *Bico das Lulas* and *Ponta do Adoxe*. The bathing summer season (that goes from June to September) is certainly a strong benefit for Tróia tourism activity, since its main product (sun-beach), strongly relies on that. Therefore, this is a favourable period to the area, not only in economic terms, but also socially and culturally, contributing to the visibility and knowledge about this region. However there are some concerns among the local population about the conditioning of the access to the beach by locals not staying in the hotel facilities; this concerns are justified by recent practices of the former project owners who restricted the access to the beach, and the existence of some private condominiums which are now doing the same, even if the Portuguese legislation states that beaches are public and cannot be privately owned.

Rice fields constitute one of the most well known landscapes of this area and the Salt tanks are part of the ancestral activities of this region, which used to have national production importance, being also very important for the fauna, because it provides shelter and feeding for innumerable species of winter birds. However, the inferior estuary salt tanks have been slowly disappearing and have now almost only cultural interest.

These activities are located in more distant areas and will presumably not be negatively affected by the tourism project – some positive effects can even occur to this kind of traditional activities.

In what concerns handicrafts, ceramics and glasses, paintings, bijouterie, fish and shells products, wood, straw and cork products are among the main ambassadors of local traditions.

Awareness

To appraise the local population awareness in what concerns sustainable development, one of the groups participating in the ICT-Sustour project conducted an inquiry to the Setúbal resident population, in order to evaluate the level of the sensibleness of the agents, tourists and local population about the importance of sustainable development.

The analysis of the data points was that most of the population has knowledge of the Tróia Resort project, that they consider it favourable or extremely favourable and that it will have a great importance in the sustainable development of the peninsula and its periphery. Among the new infrastructures projected for the peninsula we find the new ferries harbour, located in the other extremity of the peninsula, as a form to reduce traffic in the tourism space, to diminish the use of cars and to incentive the use of alternative sustainable transports such as bikes, and the majority of the inquired people totally agree with these measures.

In what regards the measures to promote sustainable development in Tróia, there is a bigger diversity of opinions, being the most relevant, according to inquired, the water treatment, cleanness of air, water and soil, reduction of waste, sensitization of population and companies and, finally, the use of less environmental pollutant operation methods.

The majority of the inquired believe that this new project will be favourable and it will contribute for the improvement of the tourism activity in the region. Still worth of mention was the fact that this project will create an important number of jobs for local population, increase tourism development, investment and regional national and international visibility.

Landscape

For someone whose looking from Setúbal to Tróia, it's hard to see deeply the north side of the peninsula, since it is completely flat and the huge towers present an unavoidable barrier – yet the recent demolitions significantly alleviated the urban pressure and impact. However with the construction of the new Resort more constructions will be raised, and even if they are not so high they'll increase the soil occupation. Sonae is arguing that for someone whose looking from Setúbal to Tróia, the first view of the new marina will really improve the landscape quality – here it should be said that Tróia as for a long time suffered different human interventions, from roman industry to agriculture, forest culture and more recently tourism, for which reasons its landscape has no particular cultural or natural value, with the exception of the dunes complex and the Caldeira *habitat*. To evaluate the quality of landscape it was made a questionnaire in which it was asked how frequently the people visiting the Tróia peninsula (majority once a year on summer season) like the landscape. The people think that the new project may improve the environment but also constitutes a great risk. This is really important for the local population.

CONCLUSIONS

Located between the Sado Estuary Natural Reserve and the Arrabida Natural Park, the Tróia peninsula, where the Troiaresort project is beginning to emerge, is a privileged natural habitat for several unique species. Troiaresort is a project with significant structural and environmental implications that will become a landmark in the Portuguese urban planning for the 21st century. The project announces a low density of construction and the use of environment-friendly construction technologies (however nothing is said about posterior operation technologies).

The well-preserved environment is being presented as a key asset for Troiaresort. In line with this, the project predicted the creation, implementation and certification according to ISO 14001 of an environmental management system for the whole area involved, which shall cover planning, design, construction and operation stages of the several development phases as well as the required environmental studies - Strategic Environmental Study of the Peninsula and environmental impact assessments.

We analysed some indicators of all dimension of sustainability. We faced some problems with the accessibility of data, availability of some indicators and difficulties to contact with people that are responsible for those issues. We've contacted the local responsible of municipality and met many economic agents that are involved in the present project for the region. Finally we've interacted with the people that are living, working or spending their vacation on this area. Four questionnaires were developed in order to hear their opinion.

Attending to the importance of the Tróia Resort Project we've had to consider, whenever it was possible, the indicators for two different time periods: the present and the future. This way we tried to highlight the expected evolution of this tourism destination, using the selected indicators.

We've found that most people don't find themselves pleased with Tróias' current service set, but that could be attributed to the present stage of rehabilitation. Also the majority of people weren't satisfied with the lack of security in local beaches.

The great majority of people knows this investment of the Sonae Truism Company and finds it a good investment for the region.

The lack of sewage treatment, both in Tróia and in the city of Setúbal, and the presence of heavy industry on the other side of the estuary, namely naval, chemical,

energy, paper and cement industries, are the main sources of water pollution in the tourism space.

In what concerns water, there aren't significant concerns about water uses, first of all because there's no economic incentive, since the water is "free" (directly capture from underground sources); there are no good practices in what concerns tourists education and information about good water use practices: golf represents the great pressure on water supply on this region and there are no water effluent treatment infra-structures (effluents are sent off directly to the sea). The present development project predicts, however, some improvements, namely in what concerns the irrigation of the golf field with treated wasted water from the hotels.

The peninsula of Tróia offers a big diversity of white sand and crystalline seawater beaches. Thanks to those privileged conditions almost all beaches have the possibility to have the European blue flag award, provided that the complementary infrastructures are developed. This is also a goal to the Tróia Resort investors.

The Tróia Resort Project will create employment with a positive effect over the population, recovery infrastructures and historical and cultural heritage, but the human pressure over the ecosystems of the peninsula, without an efficient evaluation and correction /minimization of the negative impacts, can have dangerous effects.

The project presents all the necessary conditions for the tourists' attraction to this region, allowing a significant development of the tourism activity, with economic, social and even environmental impacts: jobs and firms' creation, better environmental quality, landscape rehabilitation, global environmental management system... Yet, some negative impacts may occur: studies elaborated by marine biologists concluded some of the predicted projects strongly affect the dolphins community living in the estuary, the human pressure, and the associated impacts (on water, energy, and other resources uses) will grow considerably; the fear that Sonae's intention is to create a luxury tourism destination may conflict with the use of the space for locals.

In what regards the measures to promote sustainable development in Tróia, there is a bigger diversity of opinions, being the most relevant, according to inquired, the water treatment, cleanness of air, water and soil, reduction of waste, sensitization of population and companies and, finally, the use of less environmental pollutant operation methods.

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