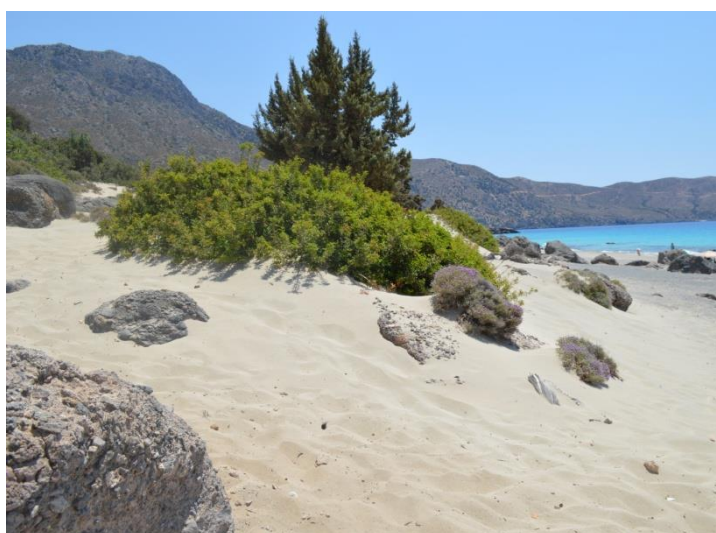




FACULTY OF ENVIRONMENTAL SCIENCES
CZECH UNIVERSITY OF LIFE SCIENCES



TITLE OF MASTER THESIS:

Sustainable tourism development and recreational uses of
Natura 2000 areas in region Chania

Thesis Supervisor: Vojtěch Barták,
IngAuthor of the Thesis: Spyridaki Eleni

18/4/2017

DIPLOMA THESIS ASSIGNMENT

Eleni Spyridaki

Landscape Planning

Thesis title

Sustainable tourism development and recreational use of Natura 2000 areas in Chania, Greece

Objectives of thesis

The aim of this research is to gain insights into the perception of sustainable tourism, and to examine the ways in which it is implemented at the regional level. Based on the visitor's preferences and recommendations, suggestions will be made for further sustainable development in the study region.

Methodology

Because of the interdisciplinary nature of tourism research, a mixture of different approaches will be adopted, consisting mainly of the following three steps:

1. Available public information review: All relevant information about the study area will be collected from various sources, including scientific literature, Internet, and other media.
2. Field observation: detailed survey in the study area will be conducted, including photo-documentation, evaluation of accessibility, facility, and security to both tourists and local people, and direct interaction/communication with local people/stakeholders.
3. Questionnaire: The questionnaire will be designed, spread, and analyzed to explore the behavior and preferences of tourists as well as their viewpoint about sustainable tourism in Chania.

The proposed extent of the thesis

40 to 60 pages

Keywords

environment, sustainable development, tourism, Natura 2000, Chania

Recommended information sources

- Bill Bramwell ,Channel View Publications(2004):Coastal Mass Tourism: Diversification and Sustainable Development in Southern Europe,p269-289
- Lisa Ruhanen, Betty Weiler, Brent D. Moyle & Char-lee J. McLennan (2015) Trends and patterns in sustainable tourism research: a 25-year bibliometric analysis, Journal of Sustainable Tourism, 23:4, 517-535
- Maythawin Polnyotee(2014):The Survey of Factors Influencing Sustainable Tourism at Patong Beach,Phuket Island, Thailand
- Zhenhua Liu (2003): Sustainable Tourism Development: A Critique, Journal of Sustainable Tourism, 11:6, 459-475

Expected date of thesis defence

2016/17 SS – FES

The Diploma Thesis Supervisor

Ing. Vojtěch Barták, Ph.D.

Supervising department

Department of Applied Geoinformatics and Spatial Planning

Electronic approval: 27. 3. 2017

doc. Ing. Petra Šímová, Ph.D.

Head of department

Electronic approval: 28. 3. 2017

prof. RNDr. Vladimír Bejček, CSc.

Dean

Prague on 07. 04. 2017

DECLARATION:

I hereby declare that the work presented in this thesis is, to the best of my knowledge, original work, except as cited in the text. I have listed all data sources, literature and publications from which I have acquired information.

Prague ----nd of April, 2017

Eleni Spyridaki

ACKNOWLEDGEMENTS:

I would like to express my gratitude to my supervisor Vojtěch Barták, for the useful comments, remarks and engagement through the learning process of this master thesis. Also, I like to thank the participants in my survey, who have willingly shared their precious time during the process of interviewing.

Last but not the least; I would like to thank my family: my parents and my sister for supporting me spiritually throughout writing this thesis and my life in general.

ABSTRACT

Tourism is one of the most important, rapidly developing activities especially since the last half of the 20th century. It is a multidisciplinary field; the last decades the relationship between tourism and environment is in the epicenter of scientific researches. The aim of this research is to gain insights into the perception of sustainable tourism, and to examine the ways in which it is implemented at the regional level. The study area named Chania and it is one of the regions in the biggest island in Greece, Crete. First goal is to know how well the concept of sustainability is understood by the visitors. Second, try to analyze the visitors behave, opinion and preferences. The opinion of locals and tourists is in the center of my research. The visitor's preferences and recommendations are going to give me inspire to create a vision and based on the potential of Chania, that the great part of area belongs to Natura 2000, to propose a plan for further sustainable development in this region. Natura 2000 network is an initiative of European Union established in order to preserve Europe's most valuable and threatened habitats and species while ensuring that management is ecologically and economically sustainable. This means that Natura 2000 is not a system of strict nature reserves, but the areas of the harmonious coexistence of human and nature. In an effort to promote environmental protection and sustainable use of natural resources, has now recognized the importance of conservation and rational management of natural areas due to the number and importance of the functions and values that emanate from them which make them irreplaceable, both for present and for future generations. Furthermore, the results of the questionnaire gives important information which helps me to create many other ideas relative to ecotourism. However, due to the small number of respondents compare to thousands of people who live and visit the place the conclusions are not a final image of the situation.

Key words: environment, sustainable development, tourism, Natura 2000, Chania

CONTEXT

1) Introduction.....	6
2) Literature review	7
3) Study area.....	21
3.1) Information about the island Crete	21
3.2) General information about the region.....	21
3.3) General information about tourism in chania.....	23
3.4) Natura 2000 in the region.....	23
4) Methodology	27
4.1) Documentary analysis.....	27
4.2) Direct observation	27
4.3) Questionnaire	27
4.4) Statistical analysis	29
5) Results	31
5.1) Summary of the respondent’s answers.....	31
5.2) Comparison between city center and suburban.....	37
5.3) Comparison between tourists and locals	43
6) Discussion	49
6.1) Recreation uses and activities in Natura 2000 sites.....	49
6.1.1) Activities relative to overland	49
6.1.2) Activities relative to water	52
6.1.3) Activities relative to air	52
6.1.4) Scientific use of Natura 2000	52
6.2) Natura 2000 information center and green park.....	53
7) Conclusion	55
References.....	57
Appendix I.....	61
Form of Questionnaire	61
Results from questionnaire	63
Appendix II.....	69
Statistical analysis in R studio	69
Comparison between city center and suburban	69

Comparison between locals and tourists	71
Summary of the people.....	74

1) INTRODUCTION

Tourism is one of the most important, rapidly developing activities especially since the last half of the 20th century. It is a multidisciplinary field; the last decades the relationship between tourism and environmental science is in the epicenter of scientific researches.

Since the early days of tourism, landscape has played an important role in the decision making for holiday destinations. Trying to escape from a conventional landscape people from the ancient history have looked to far way landscapes in order to observe and recreate. Unfortunately the planning of the natural as well as the urban landscape is increasingly frequently a reflection of the consumer demand and recreation. The increasing of financial gains from tourism was priority and lead to an extravagant use of natural resources of the touristic destination. This situation starts from the local community and the lack of social concern for the environment and end up to the environmental impact assessment of each country.

The last decades have many research started to investigate different methods which might be more sophisticated in order to preserve and protect the nature resources. In general the idea of sustainable tourism is not only an alternative way but it might be the only way for now on.

First and important step for sustainable tourism is taking under consideration what people thinking as tourism; to investigate the tourism behavior, favors and dislikes. Of course it is not optimal to demonstrate a new model as global solution for every place. Any different touristic destination needs totally deferent planning. However, the solution has to follow similar paths in terms of sustainability. Second is necessary to promote and create opportunities in protected areas for eco friendly type of recreational uses in order to increase the touristic demand. It will be more efficient if the same time encourage the people to be eco friendly and inform them about the natural environment and its value. The alternative type of tourism is one great idea to avoid mass tourism in order to avoid the decrease of natural resources. The study place in the master thesis is a great option to establish ideas like that. The three of four parts of the region are consisted of Natura 2000 areas. This fact with the combination of people's opinion could help to go through this challenge, to produce a system close to nature and sustainable for the region of Chania.

2) LITERATURE REVIEW

Throughout history mankind had always been passionate about exploring the unknown; discovering different places and embracing new cultures and languages. According to scientists, modern tourism originated in Ancient Greece during the celebration of Olympic Games. It is known that at that time, a lot of tourists visited Greece in order to watch the Olympic Games

Definition

There are several definitions of tourism and if one is to plan tourism he must have some understanding of how tourism is being defined (Gunn and Var, 2002). The science of tourism is considered by many people to be a wide as well as fundamental field and it is believed that it is time for a different pattern to be established to maintain it attractive, environmental friendly and financial viable for the next years. This could be real within sustainable ways of action. Butler states that sustainability is one single factor that has the potential to change tourism as we know it.

Tourism and nature

Many people choose destinations close to nature for holidays. Nature has always been connected with mental health. The anti-stress power that nature provides to tourists is one of the reasons why people look for places with ecological and environmental value. As Budeanu (2005, p.89) states “tourism and nature are closely interlinked, since much of the tourism depends directly on the environmental quality of its product”. The impact of tourism in touristic areas close to nature is important and we should not be blind to situations like that. It is necessary that the host community, in cooperation with the regional or national state, develops a touristic plan suitable for locations with great natural value. It is essential that appropriate measures are taken for the preservation of natural resources in protected areas or areas with ecological value, not only from an environmental point of view but also to ensure a competitive and sustainable touristic future.

Tourism development

According to Gunn and Var (2002) tourism does not create a single product, such as a car. It is remarkable how wide the field of tourism is. The “products” of tourism, one could say, that represent an enormous diversity. Thus, different destinations and situations demand entirely altered methods and plans compared to industries which produce one only product. The touristic development could produce many benefits and profits if the planning strategies are the right ones according to the different needs of a place or people.

Liu, (2003) states that some of the main benefits of tourism are that it has a direct effect on income generation and distribution compared to many other industries in that it promotes regional development, has a high multiplier effect and it involves consuming a wide variety of local goods and services. The services and goods are part

of the host community. As Walker argues the hospitality and tourism industries are the largest and faster-growing industries in the world. The power of hospitality or culture of one place has a great impact on tourists' opinion. As a result, touristic development is more successful in a destination where the host community has a better understanding of the field. The host community is one of the main stakeholders in sustainable tourism planning/development and Liu (2003) argues that the host population is itself a part of the touristic product "place". For instance, locals are subjects to be viewed and interacted with, or have to provide settings for touristic activities, and their attitude and behavior reflects the resource "hospitality" of a destination (Smith, 1994 cited in Liu, 2003 p. 462).

Sustainable tourism

According to Liu (2010) the concept of sustainability has its origins in the environmentalism that grew in the 1970s. The last decades the word 'sustainability' is more and more discussed. Someone could hear the word in so many different scientific fields, from financial to environmental ones.

As Liu (2010) indicates, some of the main aspects of sustainable tourism are persevering cultural heritage, maintaining traditional values and providing authentic experiences for tourists. Liu (2010) believes that most socio-cultural changes brought into the community by tourism development are beneficial and the fact that tourism is promoting modern values, social progress and cultural evolution should be appreciated.

According to the World Tourism Organization (WTO) sustainable tourism development is defined as follows: "Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, and the environment and host communities". The conceptual definition of sustainable tourism refers to sustainable tourism development guidelines and management practices that are applicable to all forms of tourism in all types of destinations, including mass tourism and the various niche tourism segments (WTO, 2013). Sustainability principles refer to the economic, environmental and socio-cultural aspects of tourism development, and a right balance must be established between these three dimensions to guarantee its long-term sustainability (WTO, 2013).

Butler (2007) states that sustainable tourism is type of tourism which can maintain its viability in an area for an indefinite period of time.

Hobson and Essex (2001, p. 134) argue that "the scope of the term "sustainable tourism" has been diverse, ranging from principles that require a high level of responsibility for the environment, and therefore involve substantial adjustments to the operation of tourism-related businesses, to interpretations that are simply marketing ploys designed to attract new clientele".

Liu (2003) emphasizes that there is a connection between tourism industry and natural environment and this might be the reason why sustainability is closely related to preservation of natural resources. According to Liu tourism development requires utilization of tourism resources at three levels:

- The improvement of the methods used to attract tourists, including natural, cultural.
- The establishment of an infrastructure capable of effectively supporting tourist activities.
- The motivation of physical and social settings including the hospitality of the community.

Lozano, Blancas, Gonzales & Caballero (2011, p.659) state that any type of tourism could be defined as sustainable tourism if it can be more environmental, socially and economically beneficial. This is a different approach on the definition that involves many different types of tourism.

Garrod and Fyall (Garrod and Fyall, 1998 cited in Liu, 2003, p. 465) speak of two approaches regarding sustainable tourism: the macro and the micro approach. The macro approach includes the use of environmental balance sheets to measure sustainability conditions, while the micro approach includes the use of social cost-benefit analysis at the level of an individual tourism development project. Fossati and Panella (Fossati and Panella, 2000 cited in Liu, p. 465) argue that there is “strong” and “weak” sustainability. Liu (2003) therefore raises the question of how we use our resources. The issues that Liu (2003) raised are highly relevant and one may ask whether a destination should maintain its natural assets such as wilderness areas untouched or transform them into tourist attractions, increase capital stock in the forms of improved technology and infrastructure while accepting limited changes or reductions of the natural assets? All these opinions about what sustainable tourism is or what its principal objective should be, could lead us to further investigate sustainable tourism development. The sustainable tourism development is a process that need to examine both from theoretical and practical aspect. The first step in this research is to specify what science means with the term ‘sustainable tourism development’.

According to European Commission (1999) sustainable tourism development is the right balance between the needs and favors of the visitor, the natural environment and the host community in a way that serves the best interest of both current and future generations. Tourism’s contribution to the three pillars of sustainable development can be described as follows:

- in economic terms, sustainable tourism development could improve the competitiveness of the enterprises which are directly and indirectly related to tourism field and generate profit and other advantages for the local economy,

- in social terms, sustainable tourism development could both meet the needs of the visitor and encourage a responsible behavior of the tourist, of the people working in tourism enterprises and of the local population,
- in environmental terms, sustainable tourism development could ensure the protection and preservation as well as the rational management of natural and cultural resources.

Bramwell and Lane (2000, cited in Liu, 2010, p.467) also state “that sustainable tourism development is a process where one needs to align the needs of the tourists, the tourist businesses, the host community and the need for environmental protection”. They also argue that efficient planning and implementation of collaboration among various stakeholders are essential within the process of tourism development. This might be the most critical part in the process of development and it is important to guarantee that the planning has to be clear and solid otherwise the results will not be the favorable ones. The study place for the research of thesis is part of the largest Greek island. Therefore, it would be helpful to get acquainted with the situation of sustainable tourism in Greek islands.

Tourism in Greece

Greece is one of the most attractive destinations for people all around the world; namely its islands which are considered to be the most characteristic feature of the Greek scenery because of the 3S; sun, sea, sand. Greece comes in the 15th place in the world rating of tourist destinations, since, according to the National Statistical Service of Greece, it receives more than 15 million tourists every year, following countries such as the USA, China, Spain and Great Britain.

Greece is a popular tourism destination and especially during the high season in the summer period has an adverse impact in terms of natural environment. Travel and Tourism in Greece could have the potential to produce enormous financial benefits; however, if the tourism development plan is not designed in a sustainable way, the tourism industry may result in having disastrous effects such as environmental degradation, pollution, scarcity of natural resources. Its future depends on the preservation of both natural and cultural assets, as well as the engagement of local communities in this endeavor; this will be the lifeblood of development of tourism industry. Integrated plans and planning processes should address issues such as airline carrying capacity, tourism supply and demand, resource utilization and limitation of negative economic, socio-cultural and environmental impacts.

In every community there are those who believe that, if nature is to be preserved, it should be left completely untouched. While this belief is infinitely more worthy than a disregard for the environment in a quest for profit, a balance between the two extremes would ensure the long-term economic prosperity and preservation of an area.

The key is to ensure that tourism development and environmental management are mutually supportive, and that integrated planning, policies and implementation include environmental impact assessments for all tourism projects. In addition, a list of significant historic, natural, and cultural sites, which can be rationally exploited for touristic purposes, should be identified and steps should be taken towards conserving those sites for a long-term use.

Alternative tourism in Greece

Over the last decades the new trend of alternative tourism planning has spread in Greece. The reason might be that people involved in tourism management have realized that the antiquated model of tourism in Greece could no longer be attractive in the long term. The following pages introduce the alternatives type of tourism in Greek territory.

Alternative types of alternative tourism in Greece:

Agrotourism is a mild form of sustainable tourism development which includes multi-activity holidays in rural areas. That type of tourism is easy to be established in Crete because of the great amount of agricultural land. This type of tourism aims to:

Bring the visitors in contact with nature where they can participate in outdoor activities in general, be entertained, meet new people and feel the pleasure of learning and discovery. It is a great opportunity for the visitor to explore rural areas, experience farming activities, local products, traditional cuisine and local daily life and cultural elements. Mobilize the productive, cultural and developmental forces of the land, which will hopefully lead to a sustainable environmental, economic and social development of rural areas. Well-designed and well-organized agrotourism has been demonstrated to be one of the most effective tools for a long-term preservation of a place's identity. This is explained by the fact that in this form of tourism development the conservation and enhancement of local specificities which represent the distinctive features of each region have become its competitive advantages.

At an operational level, rural tourism is the link between primary, secondary and tertiary sector of economy. It stimulates, strengthens and supports the local market by creating new jobs, providing an additional income to rural families and retaining the population in rural areas.

Briefly, the business categories involved in agrotourism are:

- Agrotourism
- Agro catering and recreation centers
- Products relative to the field

Travel agencies that undertake organizing travel plans and conducting outdoor activities and tours of ecotourism and cultural interest include visiting:

- Farmhouses
- Producers of traditional products
- Folk art workshops

Finally, regarding the visitors, rural tourism is a process that promotes a form of travel with respect for the environment and tradition, based on the knowledge of the local culture, history and everyday life. A total experience where the visitor comes in contact with the local lifestyle and combines recreation with information and awareness about social, historical, environmental and other issues of the area.

Eco – Tourism

The development of ecotourism is related to a number of problems created by the development and particularly the increase of mass tourism, environmental problems mostly, social - cultural degradation of regions as well as unequal distribution of economic benefits. The growing environmental awareness of the population in general, of the tourism professionals in particular and the setting of the objective of a viable and sustainable tourist development (international, state, business) are the key drivers of ecotourism. Generally, ecotourism is defined as an environmental friendly travel activity, that keeps relatively intact natural areas, in order to treat and acquaintance of both natural and integrated into the natural environment, goods. Ecotourism, except from being an activity that has a low impact on the environment offers pleasure / enjoyment and knowledge / experiences to visitors, maintains and enhances the well-being of local communities, which are considered an integral part of such an activity and the development process.

Eco-tourism is an alternative form directly related to the rural environment and is interwoven with activities in rural areas, which promotes the environmental protection and provides tourists with positive experiences and opportunities for getting acquainted with the countryside and nature in general.

Other concepts such as nature tourism or naturalist and environmental tourism are relative to ecotourism and therefore to rural tourism. These forms focus on outdoor recreational activities using resources that have effects of varying degrees on the environment.

Greece could fulfill its potential for the development of ecotourism provided that it is widely acknowledged that:

- The richness and variety of natural and cultural resources must be protected and preserved.
- The institutional and legislative framework should be adjusted in order to address the existing dysfunctions
- Tourism sector investments should be promoted, financial incentives should be increased, further funds of both national and EU budget should be allocated to tourism

Cultural Tourism

Although there is no commonly accepted definition for cultural tourism, for the purpose of this article, we will use the definition given by the Canadian Tourism Commission (CTC). According to CTC:

“We can characterize as a kind of cultural tourism where participation in cultural and educational experiences or experiences referred to cultural heritage are an important factor of the trip.” The World Tourism Organization (WTO) considers that cultural tourism is the journey that is mostly based on cultural motivation and therefore includes educational tours, theatre performances, festivals, pilgrimages, visits to archaeological sites, monuments and museums, as well as the study of the natural environment, folk culture and art.

We could say that cultural tourists seek for cultural and heritage attractions, wish to understand and assess the main character of a place and its culture as a whole, including:

- History and archeology
- People and their lifestyle
- Cultural evolution
- Arts and architecture
- Food, wine and local products
- Social, economic and political structure
- Morphology
- Various festivals and events

Religious Tourism

The monuments of the Greek Orthodox religion are an integral part of the national heritage and a popular tourist attraction. Tourist visitation to Byzantine and post-Byzantine churches, their important iconography, mosaics, murals and rare icons, the imposing cathedrals, chapels and rural shrines, monasteries, dependencies and cloisters indicate the intense dedication to traditions and the close and long interconnection of art with religious worship. In many parts of the country, the visitor has also the opportunity to come across buildings and places of worship belonging to other doctrines and religions that coexist peacefully with the predominant religion, highlighting the rare historic and cultural palimpsest of Greek space.

Congress Tourism

The organization of conferences is one of the most growing and dynamic sectors of the Greek tourism product (conference tourism). The construction of specialized facilities and the establishment of the necessary infrastructure over the last years in Athens have improved the country's ability to accommodate international events, larger or smaller ones. In many parts of the country, there are modern hotels and

spaces appropriate for holding specialized conferences that can provide expanded activities and high quality services. Please note that the access to these areas is particularly easy and fast.

All the above along with the excellent climate of Greece, the unique natural landscapes, its wonderful coasts, the rare cultural heritage, the excellent gastronomy, the renowned hospitality and the vivid nightlife and cultural entertainment undoubtedly make Greece an ideal destination for the organization of conferences.

Therapeutic - Spa Tourism

There are places in Greece where a visitor could find rare landscapes of exceptional beauty and important therapeutic properties. The natural mineral resources are scattered all over the Greek territory, while their water differ from the usual, either because of its high temperature or due to the presence of rare active ingredients. This water is classified as metal because of its temperature or its general chemical composition. Apart from the cold water sources there are hot springs as well, where water has been used as a therapeutic treatment since ancient times and have also been the predecessor of what today is called “spa hydrotherapy”.

The geographical distribution of sources is not random, as it is connected either with tectonic events, such as, for example, the case of Caiaphas sources, Kyllini and Langada, or with volcanic activities such as, for example, the sources of Methana, Milos, Lesbos, Samothrace and Lemnos.

Hydrotherapy is particularly important for the treatment of multiple diseases, such as arthritis and rheumatic diseases, and falls under two categories:

Internal:

- comprising drinking therapy (drinking thermal waters)
- inhalation (inhalation of fumes or droplets of mineral water)
- washes (oral, nasal, gynecological)

External:

- includes baths, jet showers (the body is hit by thermal water for a certain time, which comes with high or low pressure)
- hydro massaging (body receives water pressure)
- combination of physiotherapy with other forms of therapy, while the body is in the water
- dermatological therapy in the mud

In terms of spa tourism and of health tourism in general, there are two thalassic (sea) therapy centers in Crete and another two are under construction. This category of tourist infrastructure includes 14 spas that provide 1.4 million treatments and serve

annually about 100,000 people, as well as dozens of other spas operated by local authorities which offer guests modern services of high standards.

Sport tourism

Sports tourism is considered to be a phenomenon rather modern in contradiction with the close relation that has always been between sports and tourism. The reason is that it was not until recently that it was acknowledged as a separated part of tourism and sports industry and acquired an academic entity.

Combining two of the most popular activities sports tourism has managed to attract a lot of interest and emerged as a relatively important economic, social and cultural field. Meanwhile, the tourism industry producers who have always been in search of new markets and extension of their activities soon became aware of the economic benefits of sports tourism and were led to a significant increase of investment in the field. As a result, sports tourism is a sector characterized by brisk growth, large development potential and an increasing interest from all those involved in the tourism industry, producers and consumers.

Many authors define the concept of sports tourism as all forms of active and passive involvement in sporting activities where one's participation is random or organized, driven by business reasons or not, provided that he moves away from the place of residence and work.

It is obvious that sports tourism is a very complex and widespread phenomenon. The development of sports tourism depends on a comprehensive high quality infrastructure system that involves several fields such as the natural environment, the services sector including entertainment and transport, the built environment and the construction of facilities, the housing, the cultural heritage and the institutional framework.

Sustainable tourism in Greek islands

Greece, due to its geomorphology and location could belong among the best touristic destinations worldwide. The weather, the number, the diversity of Greek islands and the experiences they could provide as well as the hospitality and good quality of food are the main factors that contribute to this success until now. Nowadays the current tourism model based on 3S tourism (sun, sand, sea) does not fulfill the tourist demand, and there is a need for change (Lagos, 1998: 593; Mantoglou et al., 1998: 87, 90) in order to continue to generate profits for the local society. The economic crisis in Greece over the last years, led tourism professionals to make sometimes the wrong decision taking into account only the security of their profit rather than the sustainability of tourism in the long run. The goal is to produce the suitable product and at the same time to ensure that resources will suffice to produce more in the future.

The situation in Greek islands has many different aspects but the model of tourism movement has the same basis. The weather, the sea and the nature environment are the advantages that Greece, as a touristic destination, offers. This model is not effective anymore and it would be better to replace it with a new sustainable model of tourism plan and promote an alternative type of touristic adventures.

From this perspective, according to I. Spilanis and H. Vayanni (2003), tourism activity can be divided into two major categories.

- Conventional tourism

Turner (1994) used a term similar to that of ‘conventional economics’ in order to highlight the importance of the market, the pricing of resources used as inputs, and the lack of regard for the environment except insofar as it relates to the tourism product, and of various externalities. It is also preferred to the term ‘mass tourism’, as mass tourism implies the method that the activity is organized (mass, standardized, low cost, and controlled by tour operators) and not a form of tourism or a conceptual approach.

- New forms of tourism.

New forms of tourism are divided into two categories; alternative forms and special interest forms (Varvaressos, 1998: 76). Special forms of tourism are defined by the special motives that induce travel. The alternative forms on the other hand are related to the way travelling is organized (relative autonomy) and to the tourists’ eagerness to know more about the host area and community and to consume environmentally friendly products.

I. Spilanis & H. Vayanni (2003) also state that the issue of the sustainability of tourism in Greece has been acknowledged over the last twenty seven years approximately and this has led to some dispersed efforts to differentiate the tourist product at local rather than at national level, but without any strategic plan. The right decisions and the suitable strategic plan could end up with great results. Differentiated tourist products instead of mass and standard tourist services are part of the promotion of sustainable tourism development.

Ecotourism and activities related to nature, especially in protected areas (Ramsar and Natura 2000 sites), and is one of many different types of tourism which was very popular by the early 1990s. In my research this type of tourism plays an important role in the sustainable development of the region. This type of tourism could flourish in Greece due to the amount of its natural heritage and the diversity of its landscapes. The most famous and developed areas in Greece are the forest of Dadia, the Prespes, Kerkini and Plastira lakes, the mountain of Pindos and the deltas of many rivers (Koutsouris and Gaki, 1998). The main activities in these areas are mountain bike and trekking, bird-watching, canoeing, kayak as well as climbing, (WWF Hellas, 2000). This kind of vacation contributes to prolonging the touristic season, and thus it

improves the profits from the tourist activity, while at the same time it does not require specific large-scale infrastructure (Spilanis, 1995).

Defining the term ecotourism can be difficult; there is no correct answer. This kind of tourism involves a low impact on the environment which can be interpreted in many different ways. The International Ecotourism Society (TIES, 1990) describes ecotourism as: Responsible travel to natural areas that conserves the environment and improves the well-being of local people. Some academics emphasize the importance of economic development derived from the money flow of affluent Westerners' income, which should be appropriately exploited in poor environments and communities (Medina, 2005). Meanwhile others are biased towards ecotourism as a physical activity: they oppose the idea that jungle treks (for example) can be ecotourism, while a week in a seaside hotel probably cannot (Fennel, 2007).

In my research I would like to promote new recreational uses of Natura 2000 areas. This is part of course of the sustainable tourism development in the study area. As scientists define ecotourism as a form of tourism that involves activities related to nature, especially in protected areas, in the research the plan is to establish a new ecotourism model to ensure an effective plan for the area. But firstly is important to analyze more the Natura 2000 network areas and what these areas embody.

Natura 2000 is the establishment and formation of a coherent ecological network of protected areas in the European Union, which is at the center of the E.U.'s policy on nature conservation. The purpose of this network is to maintain and restore habitats and species at a favorable conservation status in their natural range. The EU has adopted two Directives for nature conservation:

1. The 'Birds Directive' for the protection of wild birds (1979)
2. The 'Habitats Directive' for the conservation of natural habitats and of wild fauna and flora (1992)

The Natura 2000 network will be made up of Special Protection Areas (SPAs) designated under the Birds Directive and Special Areas of Conservation (SACs) designated under the Habitats Directive.

The Scientific Director of the Natural History Museum, Dr. Peter Lyberakis (2015) stated on national television that after a survey conducted by the Museum, the Natura 2000 areas were wrongly considered as a problem for the local development and that the political responsibility for the management of those areas is great. Research showed that, despite the dynamic increase in nature tourism, ecological NATURA 2000 network has not yet been linked to the identity and touristic promotion of Crete. In particular, 47.7% of tourism professionals in Crete say they have noticed no change in tourist traffic in the areas integrated in the Network NATURA 2000, although 86.8% of visitors of these areas say that they prefer to visit sites belonging to the NATURA 2000 Network. My research focuses on the behavior and opinion of

tourism stakeholders as well as their understanding of the concept of NATURA 2000 Network. After Dr. Peter Lyberakis's survey about Natura 2000 areas i would like to ask some more questions focused on the sustainability of tourism.

Stakeholders

There are previous references to the diversity of tourism. Whether they are employees or tourists or scientists or hosts or belong to any other category, all of them are involved in the process of sustainable development. Although the importance of stakeholders' participation is remarkable scientists believe that do not have enough information to examine a result. Hardy (2005, p.111) argues that despite the discussions of the importance of stakeholder analysis as a tool to track cultural change and perceptions, there has been only limited research which has assessed individual stakeholder perceptions of sustainable tourism.

Butler (2007, p.15) states that "one of the main problems is to define to the stakeholders, exactly what is meant by "sustainable tourist". Based on those two statements we would like to form suitable questions in our questionnaire which are going to help us examine people's understanding of the subject. Raising awareness amongst consumers is also considered a determining factor in making tourism more sustainable (Dolnicar, Crouch and Long, 2008). According to Lee and Moscardo (2005), environmentally aware consumers may be more likely to exhibit pro-environmental behavioral intentions than other consumers. However, Boon, Fluker and Wilson (2008) test the effect of a 10 year program of raising awareness to promote ecological sustainable tourism in south east Australia and the conclusion was that the program had almost no effect over the period.

Public participation in tourism development and research

Research is a way to get knowledge according to Neuman (2009) and is a continuing process of searching and trying to work towards the truth. Neuman (Neuman, 2011) states that the survey is the most used social science data-gathering technique and could have many forms as for example questionnaires, Internet opinion polls, phone interviews etc.

Tourism involves a variation of different sectors and includes a diversity of stakeholders. Thus, sustainability in tourism requires a holistic planning that combines multiple sectors and incorporates public participation in the decision-making process (Timothy, 1999; Choi and Sirakaya, 2005). Public participation is a method that makes people get involved with issues of political, social, economic and environmental nature. It's a great opportunity for people to take action in critical and important management situations.

Tosun (2001) argues that sustainable tourism development is a multi-disciplinary and a broad concept crossing a wide range of fields such as environment, economy, society and politics. As Berno & Bricker (2001) report that tourism industry is an

integrated network in which the existing parts are connected and often a change in one part affects the other.

Furthermore, the tourism industry involves a variation of stakeholders having different perceptions, interests and insights concerning tourism development, which are often conflicting. Conflicts are within reason considering that we are talking about different characters and behaviors.

Some of the major stakeholders of the tourism sector identified in various literature are: tourists (domestic and foreign); tourist businesses (investors, developers, operators, shareholders, management, employees, public and private); and, the host community and the competent authority or government. It has been argued that practices that manage to balance this wide diversity of stakeholders are critical for the successful and efficient implementation of sustainable tourism (Liu, 2003). Successful tourism planning combines broad-based public participation which has been identified in the literature (Timothy, 1999; Choi and Sirakaya, 2005; Kent, 2005) as a holistic approach for achieving sustainable development in tourism.

Public participation is a key component of achieving efficiently sustainability in tourism industry. Balint et al. (2006) suggested that effective public participation that incorporates new insights, attitudes and approaches is essential to ensure sustainable development in tourism.

Choi & Sirakaya (2005) in their research on sustainability indicators state that tourism planning is an essential requirement to accomplish the goals of sustainable tourism development. Moreover their study highlights that all the participants should be well informed since it is essential that they provide any information and help what so ever. This is the part where community stakeholders serve as a contributing factor in the process of planning and management.

Jiaying Lu and Sanjay K. Nepal (2008) indicate the methodological discourse at a scientific research level concerning in particular the papers published in JOST about sustainable tourism. As shown in the Table below [Table 1], the majority of papers and more precisely 41% of them have applied qualitative methods, closely followed by 37% of quantitative methods and a 6% of mixed methods, while 16% of them were theoretical papers. The data collection methods used in the analysis of sustainable tourism has remained almost unchanged, social survey methods and case study being the two most common methods used.

Methodology	Type of research			Theoretical or review
	Qualitative and quantitative	Quantitative	Qualitative	
Theoretical analysis; review				54
Case study	7	61		2
Survey			98	
Survey & interview; survey & secondary data analysis; survey, interview & focus group; survey and focus group	10		15	
Interview; interview, focus groups & grounded theory; interview, documents & case study		66		
Secondary data analysis; data modeling	4	10	12	
Ethnography		2		
Total	21	139	125	56

Source: *JOST* (1993–2007).

Table 1

Different methodologies about sustainable tourism research

In a paper on mixed methods Jose F. Molina-Azorin and Xavier Font (2015) argue that a monomethod study uses only one type of method, quantitative or qualitative. In the quantitative studies scientists analyze the numerical data using statistical techniques and methods. On the other hand, with the use of qualitative methods information is mainly represented in writing textual form and scientists analyze the data with a diversity of different techniques.

Creswell & Plano Clark (2007) explain that a multiple method study uses more than one method. These multiple method studies can be categorized into:

- multi method research (multiple qualitative or quantitative methods, but not both)
- mixed methods research (integration of quantitative and qualitative methods)

From many resources anyone could find numerous different definitions of mixed methods research, all of which are based on the fact that this approach includes the combination of at least one quantitative and one qualitative method applied on research projects and methodology (Greene, Caracelli, and Graham, 1989; Tashakkori and Teddlie, 1998). Johnson and Onwuegbuzie (2004) state that in mixed methods research the researcher merges or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study.

3) STUDY AREA

3.1) INFORMATION ABOUT THE ISLAND CRETE

Crete is the largest island in Greece, is 250 km long and 57 km wide at its widest point. It is one of the most famous touristic destinations, popular for its clean beaches and its long history. There are hundreds of archaeological and historical sites to visit in Crete. Its landscape is dominated by mountains, which are sufficiently high for the winter and spring rains to fall and snow remains visible on the highest peaks until spring. Chania in the most touristic destination in Crete but Malia, Hersonissos and Stalida (Stalis) are also full of holidaymakers. Chania is the region of Crete that I chose to study for this research. Living in Chania and exploring its unique landscape over the last nine years of my life has been an inspiration for me. Crete has two international airports, the Ioannis Daskalogiannis airport in Akrotiri Chania, the Nikos Kazantzakis airport in Heraklion, plus a smaller airport in Sitia. They provide scheduled flights throughout the year, whereas in summertime there are additional flights as well as charter flights. Olympic Airlines and Aegean Airlines perform domestic flights from the above airports to various destinations in Greece. International flights are usually connecting flights via Athens, except from charter flights or flights directly from/to Crete performed by certain companies. Another way that Crete can be accessed is by sea since there are several ferryboats departing daily from the port of Piraeus. “Minoan lines” and “Anek lines” are two Cretan Greek passenger shipping companies. Crete is also connected by sea to almost all Greek islands.

3.2) GENERAL INFORMATION ABOUT THE REGION

Chania [Figure 1] is located to the Southern part of the Greek territory in the island named Crete (the biggest island in Greece).



Figure 1

Chania region

There were 5 provinces and 25 administrative regions (municipalities) in the prefecture of Chania (also written as Hania or Xania). The provinces were Kydonia, Kissamos and Apokoronas in the North and Selino and Sfakia in the South. After the Kalikratis system in Greece we have changes in that. We have instead of Kydonias two others Platania and Chania as well one more province called Gavdos.

Platania located in the coastal part of old province Kydonia, is the main touristic area of West Crete. The region of **Selino** stretches from the south-west on Crete to just beyond Sougia on the south coast. To the north it extends to the hills beyond Agia Irini, Kandanos and Elos. Further to the West the region of **Kissamos** (with Kissamos as its main town) includes the two peninsulas of Rodopou and Gramvoussa. **Apokoronas**: East of Chania, after the harbour of Chania extending almost all the way to Georgiopolis is the region of Apokoronas. **Sfakia**: The most untouchable region in terms of nature ecosystem. On the south coast it borders Selino to the west and stretches all the way past Hora Sfakion to a little beyond Frangokastello. It is cut by several deep gorges which run from the mountains to the Libyan sea, the most famous being of course the gorge of Samaria.

Gavdos [Figure 2] is the southernmost part of Greece as well as Europe. Gavdos is one island separate from Chania region but belongs to Chania.



Figure 2

Orthophoto of Gavdos

3.3) GENERAL INFORMATION ABOUT TOURISM IN CHANIA

A lot of people choose to come to Chania for holidays. The picturesque old town, the sunny weather and the unique beaches, the traditional Cretan cuisine as well as the hospitality of the locals are some of the main reasons Crete has become one of the most popular destinations for both international and domestic tourists. There is direct accessibility by air, from/to Daskalogiannis Airport in Chania, by sea, from/to Souda port, whereas all four regions of Chania are connected and entirely accessible through a road network. The peak touristic season in Chania starts in May and lasts until September, since the third-quarters of the tourism flows choose this time of year to visit Chania.

The sunny weather, the warm beaches and the diversity of the Cretan landscapes attract people from all over the world to experience the Greek hospitality and the peaceful way of life. The overall income deriving from tourism has always been a fundamental factor of the Greek economy. Tourism industry creates new businesses and jobs. The diagram [Figure 3] illustrates the arrivals at Daskalogianis airport in Chania in the years 2015 and 2016.

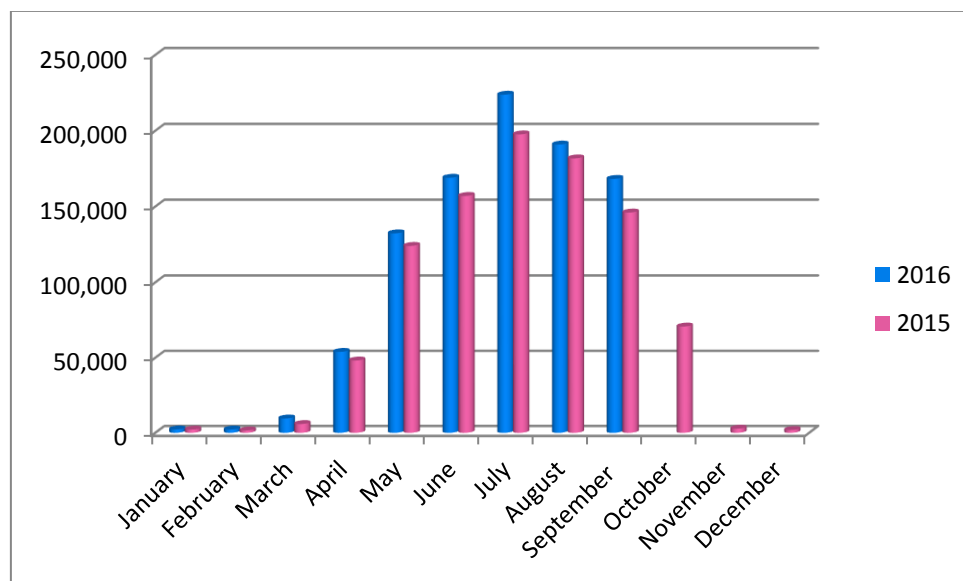


Figure 3

Number of the tourists per month in Chania

Source of data: <http://sete.gr/el/statistika-vivliothiki/statistika/>

3.4) NATURA 2000 IN THE REGION

The island Crete is very famous for his ecological value and the rich natural environment. The two of the three parts of the study area in the research belongs to protected areas. The region Chania consists of a large part of Natura 2000 areas [Figure 4, Table 2].



Figure 4

Natura 2000 sites in the region

Name	Area(Ha)	Name	Area(Ha)
Grambousa - Tigani & Falasarna - Pontikonisi, Ormos Livadi - Vilgia	5781.30	Meterizia -Agios Dikaios-Tsounara-Vitsilia Leukon Oreon	6874.00
Elafonisos & Coastal marine zone	271.79	Peninsula Gramvousa & Islets Hmeri & Agia Gramvousa, Pontikopisi	2806.00
Peninsula Rodopou - Maleme beach	8753.27	Islet Agioi theodoroi	81.00
Elos-Topolia-Sasalos-Agios Dikaios	7351.92	Gorge Kalikratis -Argouliano Gorge-Plateau Manika	4209.00
Ormos Sougias-Bardia-Gorge Lisou until Anindrous & Coastal marine zone	3039.84	Lake Agias	67.00
Lake Agias-Platanias-Stream Keriti-Valley Fasas	1211.58	Peninsula Rodopou	2920.00
Gorge Thesidou	497.73	Lake Kourna & Estuary Almurou	200.00
Leuka Ori & Coastal marine zone	53363.68	Asfendou-Kalikratis & Coastal marine zone	14022.51
Drapano - Georgioupoli Beach - Lake Kourna	4430.51	Island Gavdos & Gavdopoula	6290.59
Fre - Tzitzifes-Nipos	1217.60	Beach from Xrusoskalitissa until Krios	2202.49
Samaria National Park -Gorge Tripitis -Psilafi-Koustogerako	13949.00		

Table 2

Name and area for all the Natura 2000 sites

The integration of Chania in the Network Natura 2000 was considered to be a great opportunity for the development of sustainable tourism in the region. The environmental worth of these areas is invaluable. Thus emphasis should be on:

- The maintenance of the essential ecological processes
- The conservation of biodiversity and the prevention of irreversible damage to the natural and cultural heritage
- The maintenance of the productive capacity of ecosystems and the protection of important habitats
- The creation of the appropriate conditions for scientific research and education
- The improvement of tourism and recreation services that will subsequently stimulate the increase of the tourism revenue and the employment

An effective management is a necessary for the preservation of areas with natural beauty. A management plan should aim to harmonize all their existing uses such as agriculture, livestock farming, forestry, fisheries, tourism and regulate all forms of farming rights, grazing, logging, fishing, hunting that can be exercised on a particular area. Conflicting interests and requirements need to be balanced in a manner that ensures the maximum benefit for the community. This arrangement of all kinds of uses depends on the in time preparation of detailed management plans that will be applied over the next several years. The preparation of a management plan is the subject of study of a scientific group that consists of members from many academic disciplines, in order to ensure that all parameters are reliably described and assessed and provide a comprehensive overview of the study area and its problems. The nature of the management objects itself involves complex processes occurring within natural ecosystems that can only be evaluated by teams of biological sciences experts. On the other hand man, either as an agent or as a regulator, plays also a key role in the function of ecosystems; his participation in drafting groups of management plans is there for necessary along with specialists from the technical, social and economic sciences. The objectives of management are set according to ecological data, the state of ecosystems and the needs of land owners, neighbors and society.

Guests, apart from their compliance to the specific restrictions set by local authorities-should generally avoid within protected areas:

- Moving in motor vehicles off-road in environmentally sensitive areas and paths
- Smoking outside planned rest position and lighting fires
- Eradicating or destructing the area's flora, plants and flowers.
- Removing or destructing nests, eggs or chicks.
- Damaging geological formations of signs or other marking-information structures.
- Destroying or altering cultural monuments.

- Using weapons or traps, illegal hunting and fishing that would endanger the area's fauna.
- Throwing stones and causing unusual or excessive noise.
- Storing waste in locations other than those established for this purpose.
- Disturbing unnecessarily fauna species.

The rich natural and cultural environment of Crete and the perfect combination of mountain and sea together with the geomorphology of NATURA 2000 areas and the rich cultural reserve create the conditions for the exercise of alternative tourist crowd activities. Greece has tried to promote over the last decade an alternative type of tourism in order to achieve an important increase of tourism profit. At this point we would like to identify some types of alternative tourism which could be established in Natura 2000 areas.

Types of alternative tourism in Natura 2000 areas:

- *Ecotourism*: The NATURA areas 2000 in Crete provide opportunities to exercise activities relative to eco-tourism such as exploration of the island's botanical paradises, observation of birds (bird watching) at their natural environment.
- *Agrotourism*: Traditional agro-tourism lodges operated in many rural agglomerations within the NATURA 2000 sites, providing the opportunity to visitors to enjoy the famous Cretan hospitality and come in contact with local environmental and cultural values.
- *Geotourism*: Crete is the ideal geotourism destination; a new form of cultural-environmental tourism linking the geological heritage with cultural monuments and traditions of each region.
- *Cultural tourism*: Experience that involves visiting sites of archaeological and historical, religious, gastronomic interest, familiarizing with the local folklore may be supplemented by participation in high-level activities related to modern culture.
- *Enotourism*: In recent years, the development of the so-called "Wine Roads" network which extends across several areas has made Crete a major destination for wine aficionados in Helladic territory. "Wine Roads" include one of the oldest vineyards in Europe where excellent local varieties grow.

4) METHODOLOGY

Many tourism researchers have embraced mixed methods to investigate the field because of the interdisciplinary nature of tourism research which stimulates the use of multiple methods. This study is an effort to understand the tourist's opinion on sustainability, to analyze the potential of alternative tourism by taking into account the tourist's needs in order to create the optimal vision and establish the most appropriate infrastructures and facilities that are both attractive for the tourism stakeholders and designed to be sustainable.

4.1) DOCUMENTARY ANALYSIS

The documentary information investigated is obtained from many resources such as literature, scientific papers, Internet, and other media for better understanding of the situation. In this process i found surveys from different scientists as well as papers and source from magazines and media that help me a lot with the next steps of the methodology.

4.2) DIRECT OBSERVATION

To obtain preliminary data used the following methods: survey, visit and photo taking of the area of study, exploration of activities related to tourism such as the number and condition of tourist attractions, accessibility, facility, and security of the area for both tourists and local people. Moreover, as a researcher I had various roles; as a participant and a non-participant in order to have the opportunity to interact and get acquainted with the local people who are involved in all tourism activities. It is important to monitor closely in order to examine the involvement and interaction between tourism stakeholders, including any changes occurring in the study site. The time period is not specified because I lived in this region for eight years as a citizen and also spent four months during the summer of 2016 to conduct a scientific study in the area and collect information in accordance with the following questionnaire.

4.3) QUESTIONNAIRE

The questionnaire is designed to examine the behavior of people who visit or stay in the particular place as well as their point of view about sustainable tourism at Chania. The following questions [Table 3] include general questions about tourism, questions on tourist's behavior and issues in terms of sustainability.

The process of share and collection of the questionnaire's responses lasted four months: June-September. The locations selected for this study was some touristic places in the region of Chania; Chania city center (224 respondents), and suburban (76 respondents) like Platantias, Georgioupoli, Sougia, Falasarna. In addition, results of an online survey (100 respondents) conducted through social network are included in this study.

Questions	
1	Are you local resident of Chania?
2	Do you believe you understand the concept of Sustainable tourism?
3	Where do you spend the most of your time in Chania?
4	Did you make an effort to consume locally produced food and drinks instead of imported goods?
5	Do you use local transportation for your excursions?
6	Where did you select to stay in Chania?
7	Do you believe natural resource protection and tourism can be compatible?
8	Do you believe the community of Chania would benefit from developing a sustainable tourism framework?
9	Have you ever considered the environmental impact as a consequence of your travels?
10	Do you think sustainability is ever fully achievable in Chania?
11	Write your favorite place.
12	Write something that you do not like or miss from the region.

Table 3

All the questions from the survey

The survey was conducted in the following order:

City center

Chania: June-September 2016

Chania is the second largest city of Crete and the capital of the Chania regional unit. The city of Chania lies around 40 km from the west end of Crete. By road, the distance is approximately 52 km. The place is meeting point of the tourists in the region because the airport and harbor located there.

Suburban

Platanias: August 2016

Platanias has population of 6549 inhabitants according to the census of 2011. The place is not far away for the city Chania, approximately 14 km. Destination with strong tourist interest. The village of Platanias evolved in recent years into a tourist

center of the region of Western Crete since the number and quality of choices and infrastructure make it an autonomous Plataniias tourist destination.

Georgioupoli: July 2016

Georgiopolis is a coastal village of Chania, located 40 km from the city of Chania and 20 km from Rethymno. According to the 2011 census, Georgiopolis has 455 inhabitants. It is built on the western edge of a large sandy beach with dunes, in a valley with abundant water, between the estuaries Almyros, which forms a lake, and Passer. Georgiopolis has evolved into a tourist resort and has a small port at the mouth of the Almiros.

Sougia: September 2016

The small village of Sougia in the south-west of Crete has managed to remain unaffected by the growth of tourism in Crete. It is still a peaceful haven, with a long beach, plenty of good accommodation and excellent places to eat, all at prices below those found in most of the island. From early April to late October Sougia attracts visitors looking for a relaxing holiday away from mass-tourism. Whilst you can chose to do very little apart from lazing on the beach or enjoying the relaxed atmosphere of a few beach front cafés there are also a number of beautiful walks you can do in the region. The village has appealed to visitors from northern Europe since the early 1970s and many of the people that you will meet in Sougia have been visiting quite a few times (*Source:* <http://www.sougia.info/>).

Falasarna: July 2016

Falasarna (sometimes written as Phalasarna) is located on the West coast of Crete and, similarly to Elafonisi is popular with day trippers because of its stunning beaches and clear turquoise blue sea. It consists of several sandy beaches of various lengths, all facing the West (which makes it a wonderful place to watch the sunset from). The sea is generally very clean and with lovely colors because of the sandy bottom. If you are interested in archaeology you can also visit the remains of a fortified Hellenistic harbor. Because of a sudden uplift of the West of Crete 1500 years ago the harbor is now located inland. Because there is a good area of flat fertile land running along the coast, a lot of greenhouses have been erected in the last 20 years or so and Falasarna, especially seen from above as you drive down the hill, is not as beautiful as it once was. But when you are on the beach you won't notice them anymore.

4.4) STATISTICAL ANALYSIS

The main point of questionnaire was to collect information; first a general concept of people in terms of sustainable tourism and further through the comparison of results from the people with different purposes to indentify the main issues. Local residents may have totally different opinion from tourists. Furthermore, respondents from suburban compared to them which prefer the city center could help me to obtain a perspective from different approaches. The statistical analysis is the only way to

extract an accurate conclusion about the significant of differences in two samples. For this purpose of analysis R-studio was the suitable program. The main commands that I used for the comparison was 'binomial test' and 'chi-squared test'.

5) RESULTS

5.1) SUMMARY OF THE RESPONDENT'S ANSWERS

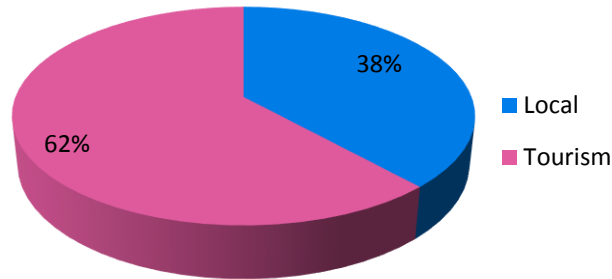


Figure 5

Percentage of the question No.1 of survey

The pie [Figure 5] chart shows that the 62% of the respondents are tourists and only the 38% are local residents.

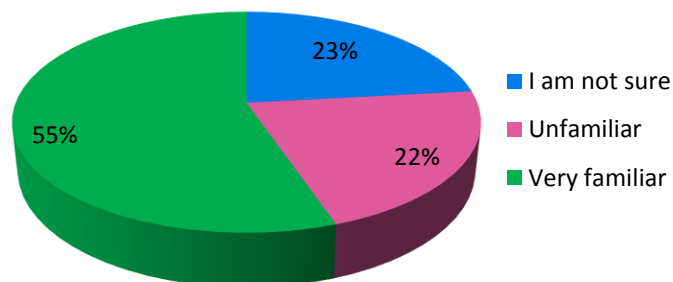


Figure 6

Percentage of the question No.2 of survey

The second question [Figure 6] refers to the ability of people to understand the concept of sustainable tourism. The pie illustrates that almost half of the people feel very familiar with the concept of sustainable tourism while the other half feel completely unfamiliar or not so sure. In this point it is important to mention that I tried to inform people who were interested to know more about the term “sustainable tourism”.

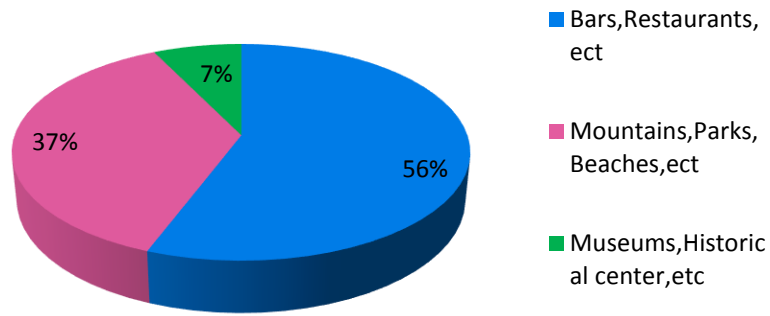


Figure 7

Percentage of the question No.3 of survey

The pie illustrates [Figure 7] that half of the people spent time in bars and restaurants, 37% preferred going to mountains, park and beaches while 7% visited museums and historical centers.

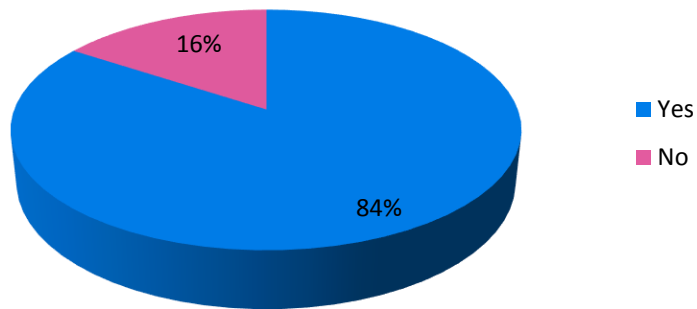


Figure 8

Percentage of the question No.4 of survey

The fourth question was about whether people made an effort to consume local products, food and drinks instead of imported goods. The pie chart [Figure 8] shows us that 84% of people indeed preferred the local products, which is an encouraging result for the sustainability of tourism.

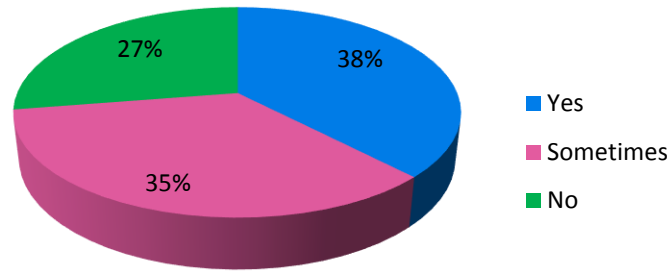


Figure 9

Percentage of the question No.5 of survey

The pie chart [Figure 9] illustrates tourists' use of transportation. The greatest proportion of the people use always regional transportation and 35 per cent said that choose transportation sometimes. Furthermore, there is a part of 27 per cent which never use any transportation.

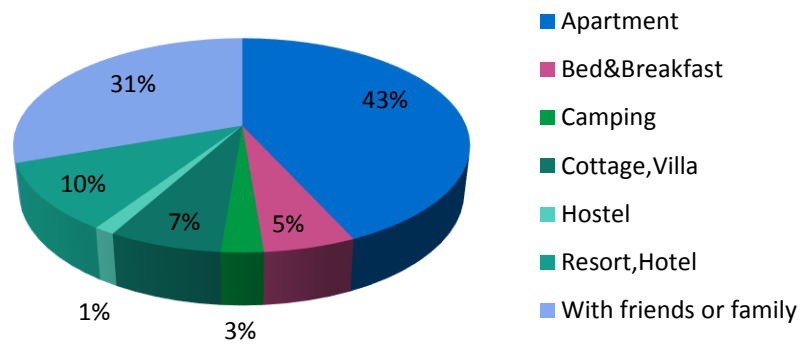


Figure 10

Percentage of the question No.6 of survey

The sixth question refers to the type of accommodation that people choose. In this question it is quite obvious [Figure 10] that the majority of people prefer to stay either in apartments or with friends or family.

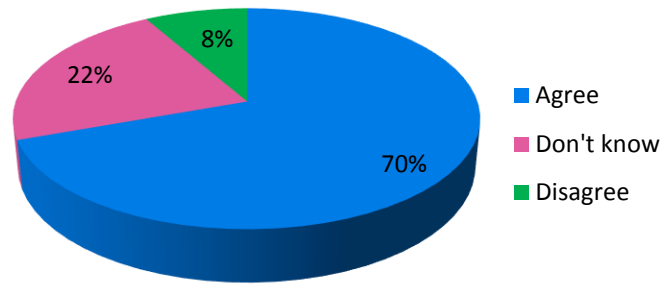


Figure 11

Percentage of the question No.7 of survey

The majority of the people with percentage of seventy per cent consider that the natural resource protection and tourism can be compatible as according to the pie [Figure 11]. However, the proportions of people which are not aligned with that are not unremarkable. The 22 % of the people they stated 'Don't know' and the 8 per cent 'Disagree'.

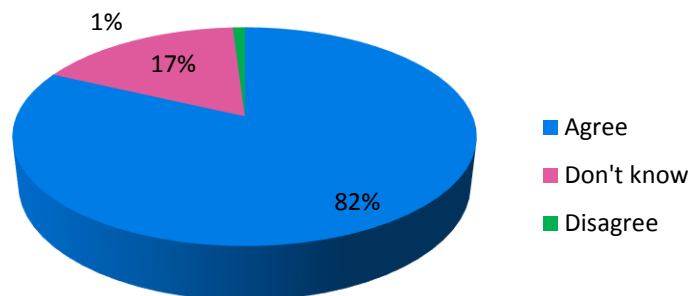


Figure 12

Percentage of the question No.8 of survey

The question eight [Figure 12] in the survey is about the benefits of the region Chania from sustainable tourism. The majority of the people consider that indeed the sustainable tourism will be advantageous. On the other hand the seventy per cent is not sure, and final only the one per cent of the people disagrees.

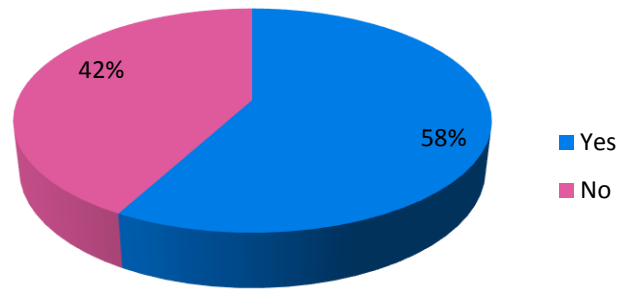


Figure 13

Percentage of the question No.9 of survey

The pie [Figure 13] illustrates if the people think about the impacts of their travel or not. The amount of people who indeed consider about the impacts on the environment is the majority with 58 per cent. However, the proportion with different opinion is not small (42%).

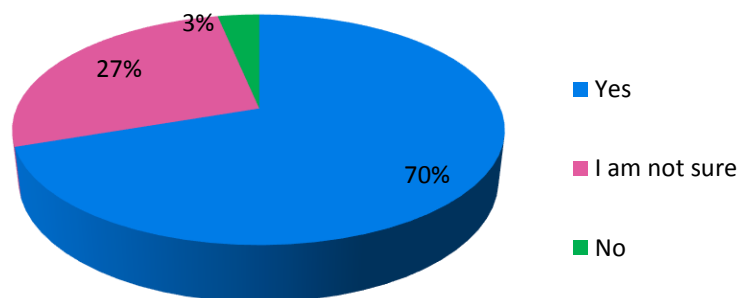


Figure 14

Percentage of the question No.10 of survey

In the tenth question the pie [Figure 14] is clearer that the 70 per cent of the respondents are optimistic and they believe that is not utopia the establishment of sustainable future for the region Chania. Only the three per cent are negative and follow the people which are not sure with twenty seven per cent.

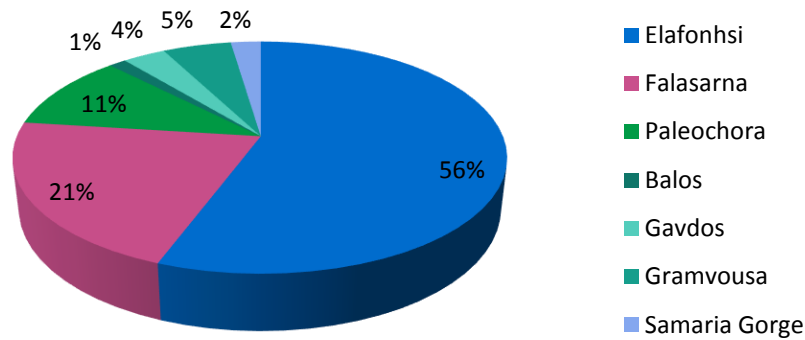


Figure 15

Percentage of the question No.11 of survey

Overall according to the pie [Figure 15] almost the half of the people prefers first Elafonhsi. Second place in preference of the respondents is the place Falasarna followed by Paleochora with 11 per cent. Furthermore Gramvousa and Gavdos have 5 and 4 per cent respectively. Only the 1 per cent of people chose Balos and only 2 per cent Samaria Gorge.

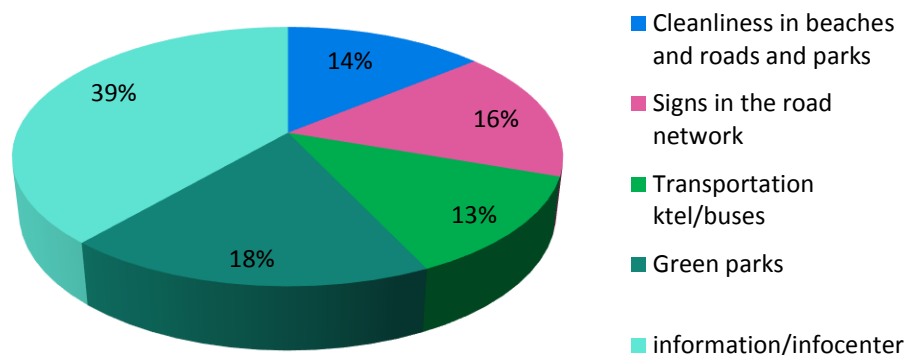


Figure 16

Percentage of the question No.12 of survey

The last pie [Figure 16] shows us the dislikes of people for the region Chania. First and most important with 39 per cent is that there is lack of informations and infocenter about a lot of things relative to tourism and nature. The lack of Green parks are the second thing that the respondents do not like in the region with 18 per cent. Then almost with equal presentages are the signs in the road network, the cleanliness and the transportation network in the region respectively.

5.2) COMPARISON BETWEEN CITY CENTER AND SUBURBAN



Figure 17

Compared proportion for No.1 question of survey between city center and suburban

Statistical analysis: X-squared = 7.4359, df = 1, p-value = 0.006394

The differences between city center and suburban are significant. In the city center, local residents are obvious [Figure 17] much more than in suburban in the survey.

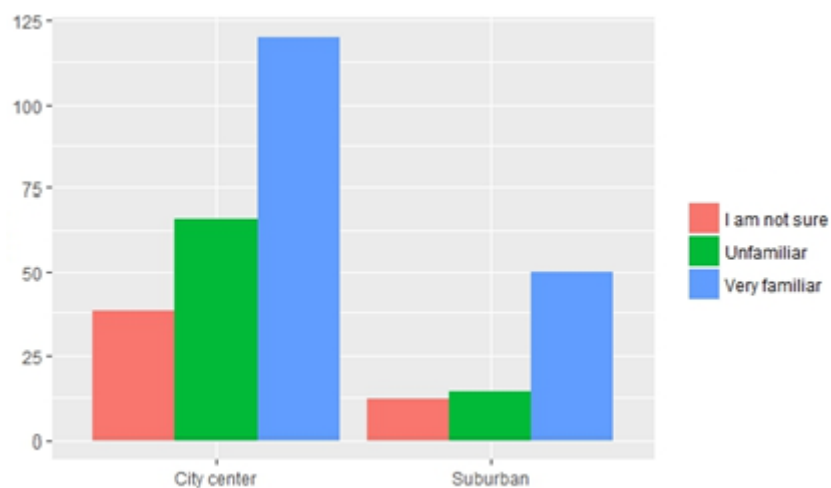


Figure 18

Compared proportion for No.2 question of survey between city center and suburban

Statistical analysis: X-squared = 4.1371, df = 2, p-value = 0.1264

In this comparison [Figure 18] the opinion of people from suburban seems similar with city center respondents.

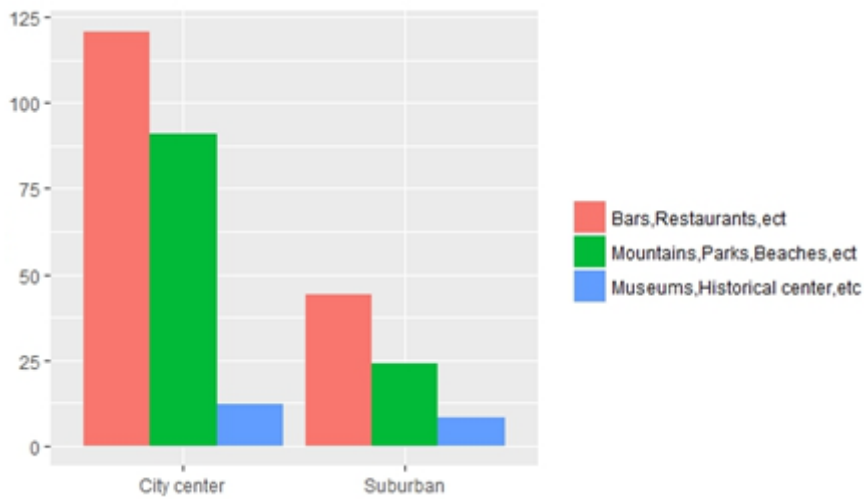


Figure 19

Compared proportion for No.3 question of survey between city center and suburban

Statistical analysis: X-squared = 3.6409, df = 2, p-value = 0.162

In this comparison [Figure 19] the opinion of people from suburban seems similar with city center respondents.



Figure 20

Compared proportion for No.4 question of survey between city center and suburban

Statistical analysis: X-squared = 1.1366e-30, df = 1, p-value = 1

In this comparison [Figure 20] the opinion of people from suburban seems similar with city center respondents.

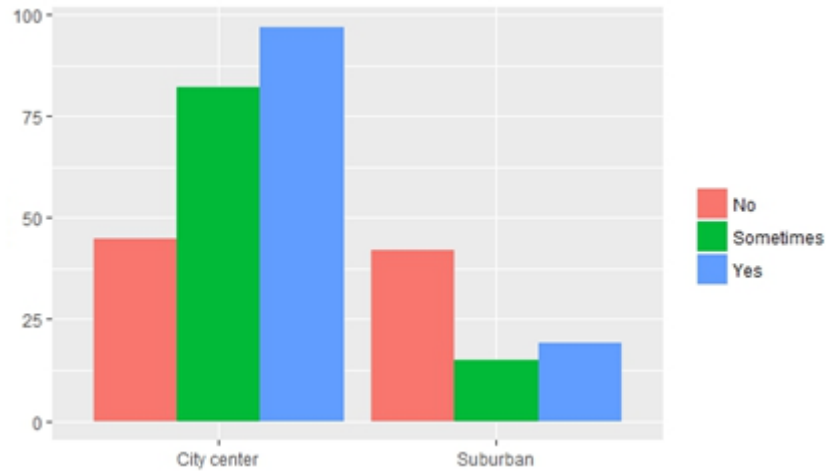


Figure 21

Compared proportion for No.5 question of survey between city center and suburban

Statistical analysis: X-squared = 34.121, df = 2, p-value = 3.897e-08

The results in this question [Figure 21] shows that the changes are remarkable. In the suburban the majority of the people do not use any transportation.

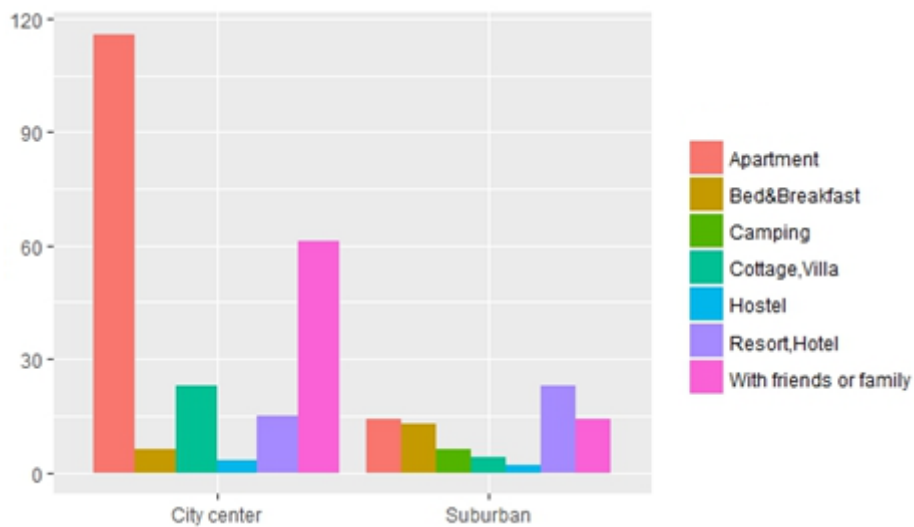


Figure 22

Compared proportion for No.6 question of survey between city center and suburban

Statistical analysis: X-squared = 79.702, df = 6, p-value = 4.117e-15

The changes between people from city center and suburban are remarkable [Figure 22]. In the city center people prefer to stay in apartments and with friends and family with a great percentage. On the other hand respondents from suburban have as a first choice hotels and resorts.



Figure 23

Compared proportion for No.7 question of survey between city center and suburban

Statistical analysis: X-squared = 4.3863, df = 2, p-value = 0.1116

There is not significant different between the two compared samples in question number seven between suburban and city center [Figure 23].



Figure 24

Compared proportion for No.8 question of survey between city center and suburban

Statistical analysis: X-squared = 0.38202, df = 2, p-value = 0.8261

In this comparison [Figure 24] the opinion of people from suburban seems similar with city center respondents.

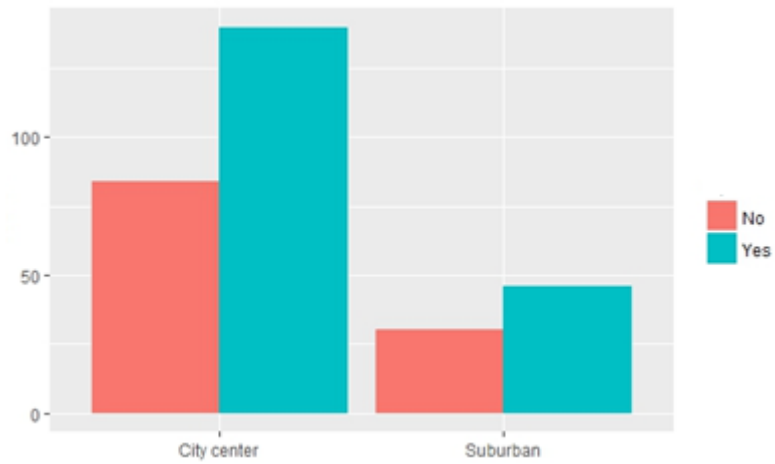


Figure 25

Compared proportion for No.9 question of survey between city center and suburban

Statistical analysis: X-squared = 0.028752, df = 1, p-value = 0.8654

In this comparison [Figure 25] the opinion of people from suburban seems similar with city center respondents.

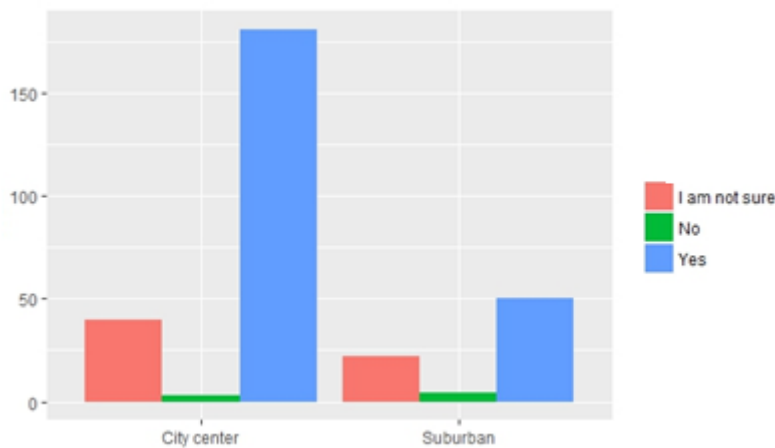


Figure 26

Compared proportion for No.10 question of survey between city center and suburban

Statistical analysis: X-squared = 8.7829, df = 2, p-value = 0.01238

The results [Figure 26] show that there are significant changes. The positive answers from the people from city center are much more than the respondents in suburban.

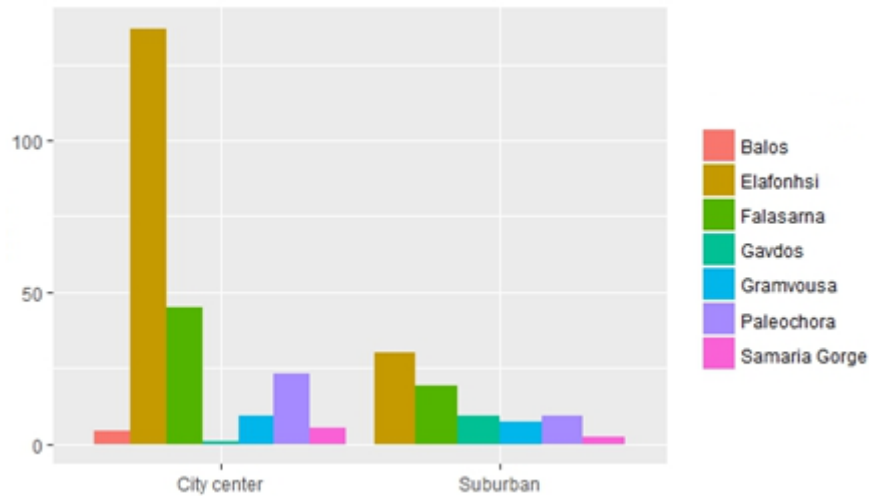


Figure 27

Compared proportion for No.11 question of survey between city center and suburban

Statistical analysis: X-squared = 31.94, df = 6, p-value = 1.675e-05

Although the most popular destinations are the same both from city center and suburban, there are significant changes [Figure 27]. For example, nobody from suburban considers Balos as favorite place. Furthermore, Gavdos is much more popular in suburban sample by far. Finally, indeed Elafonhsi is the most popular in general; however, the respondents seem to love more this place than suburban.

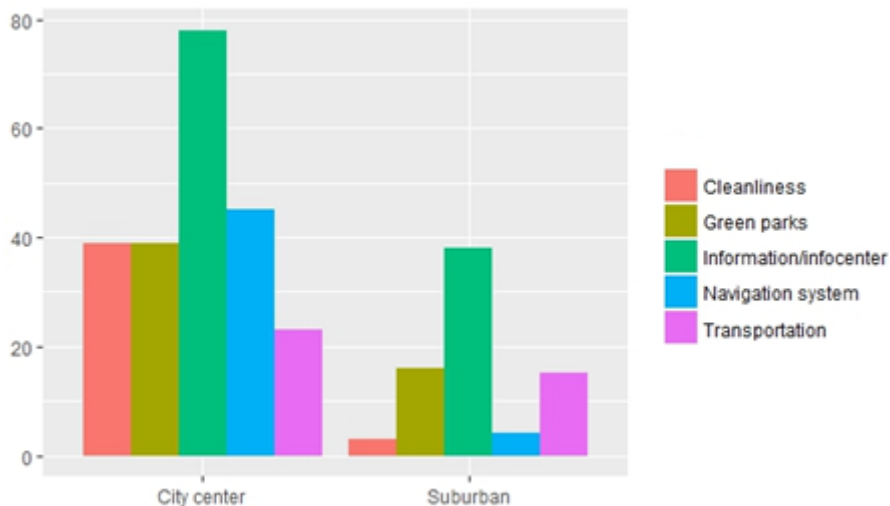


Figure 28

Compared proportion for No.12 question of survey between city center and suburban

Statistical analysis: X-squared = 22.793, df = 4, p-value = 0.0001393

The last question [Figure 28] was about dislikes of people. The differences are remarkable in this step. It is obvious that cleanliness and navigation system is more problem in city center than in suburban. Information centers are the dominant problem of the respondents of both places.

5.3) COMPARISON BETWEEN TOURISTS AND LOCALS

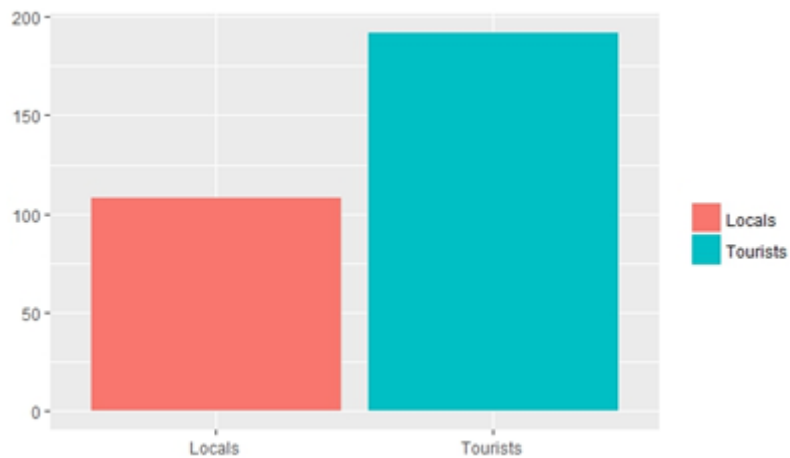


Figure 29

Compared proportion for No.1 question of survey between locals and tourists

Statistical analysis: X-squared = 295.68, df = 1, p-value < 2.2e-16

The distribution of the people is not fifty-fifty. It is obvious in the figure [Figure 29] that tourists are much more local residents in the survey.

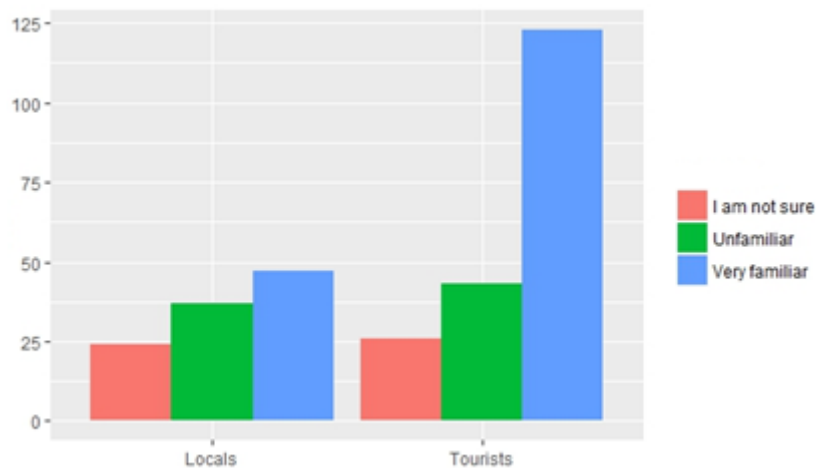


Figure 30

Compared proportion for No.2 question of survey between locals and tourists

Statistical analysis: X-squared = 11.921, df = 2, p-value = 0.002579

In question two the differences are significant [Figure 30]. Local residents do not seem so well-informed about the concept of sustainable tourism than tourists.

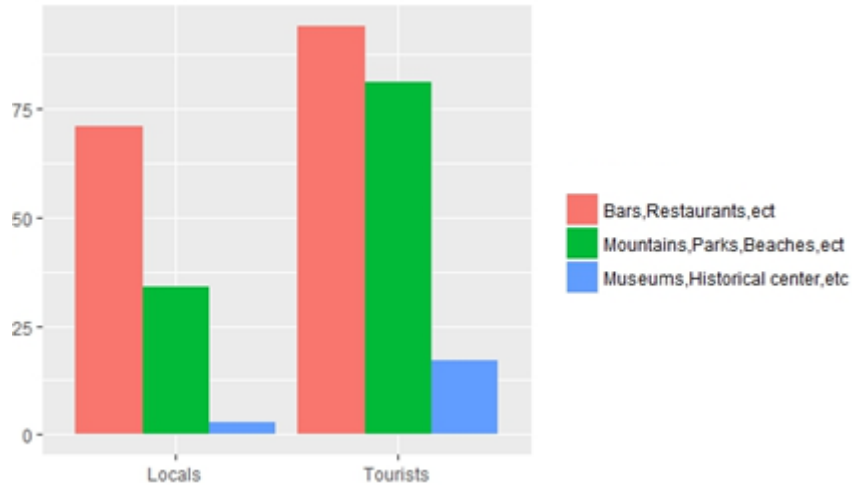


Figure 31

Compared proportion for No.3 question of survey between locals and tourists

Statistical analysis: X-squared = 9.4344, df = 2, p-value = 0.00894

From the figure [Figure 31] it is obvious that there are differences. Local people spend less time in museums and historical center than tourists by far. Furthermore, tourists prefer more to spend time in natural environment than locals.

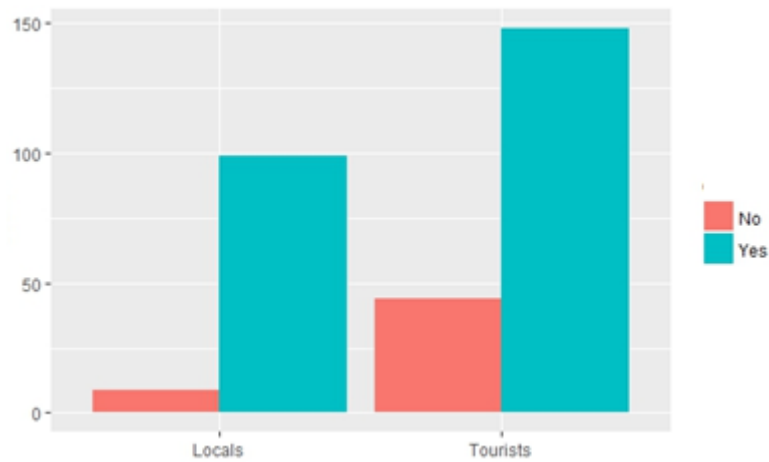


Figure 32

Compared proportion for No.4 question of survey between locals and tourists

Statistical analysis: X-squared = 9.1284, df = 1, p-value = 0.002517

According to statistical analysis there are significant differences between two samples [Figure 32]. Tourists seem much more negative than locals in question number four.

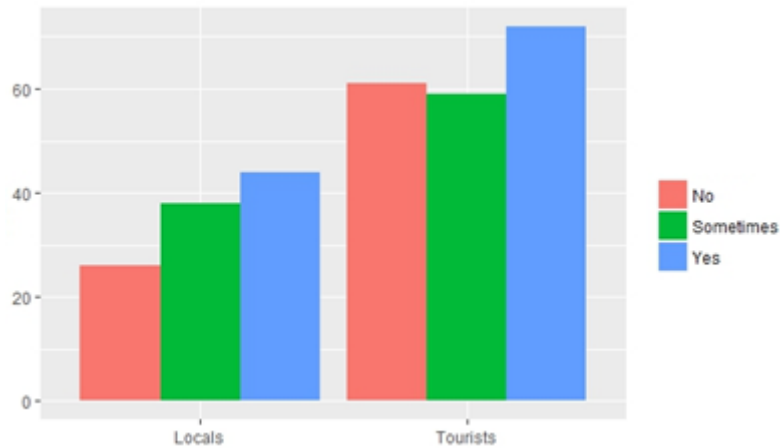


Figure 33

Compared proportion for No.5 question of survey between locals and tourists

Statistical analysis: X-squared = 9.1284, df = 1, p-value = 0.002517

The p-value is smaller than 0.05 that help us to state that the differences are significant [Figure 33]. Local residents seem more negative to use transportation than tourists.

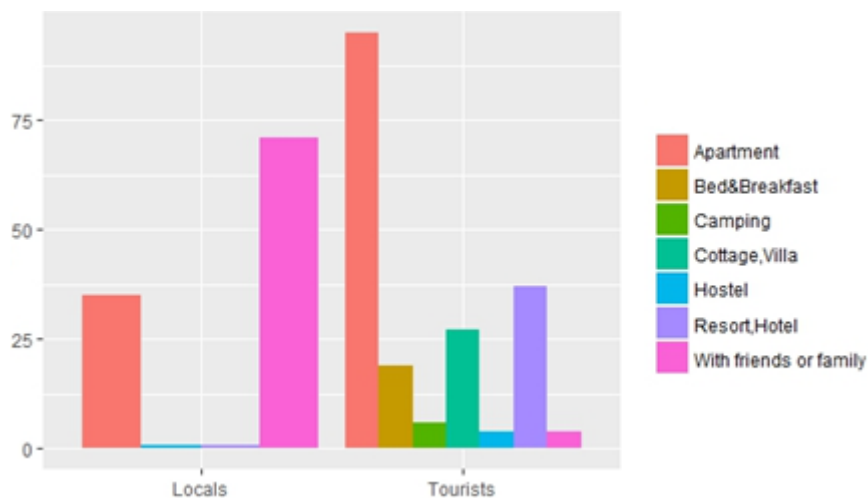


Figure 34

Compared proportion for No.6 question of survey between locals and tourists

Statistical analysis: X-squared = 164.86, df = 6, p-value < 2.2e-16

In the question number six [Figure 34], the differences in results are obvious. Locals prefer to stay with friends and family or in apartments. On the other hand, tourists have various choices.

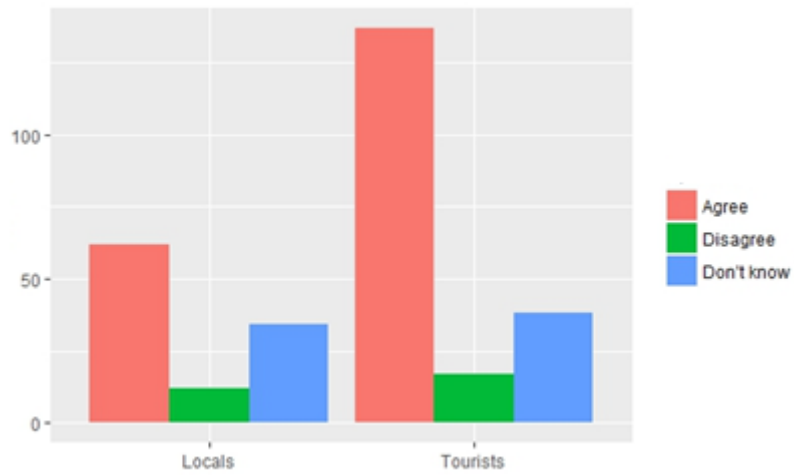


Figure 35

Compared proportion for No.7 question of survey between locals and tourists

Statistical analysis: X-squared = 6.3266, df = 2, p-value = 0.04229

There are differences in the comparison between locals and tourists in question seven [Figure 35]. Local residents seem more negative and uncertain than tourists.

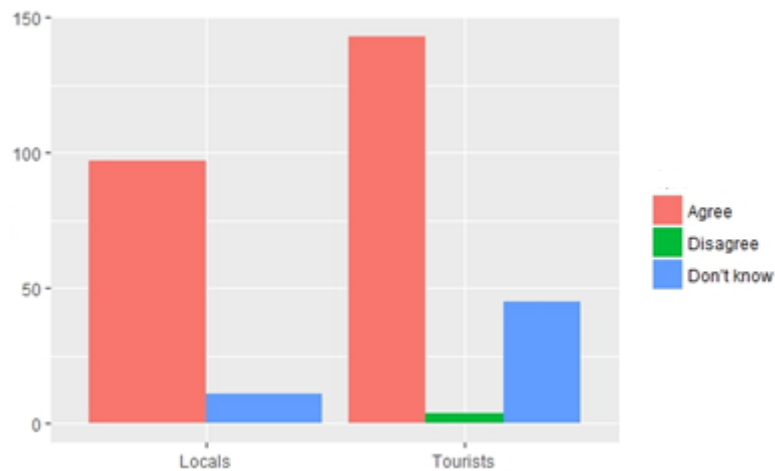


Figure 36

Compared proportion for No.8 question of survey between locals and tourists

Statistical analysis: X-squared = 10.785, df = 2, p-value = 0.00455

The comparison of question eight [Figure 36] between local people and tourists presents significant differences. Tourists seem more uncertain than local residents.

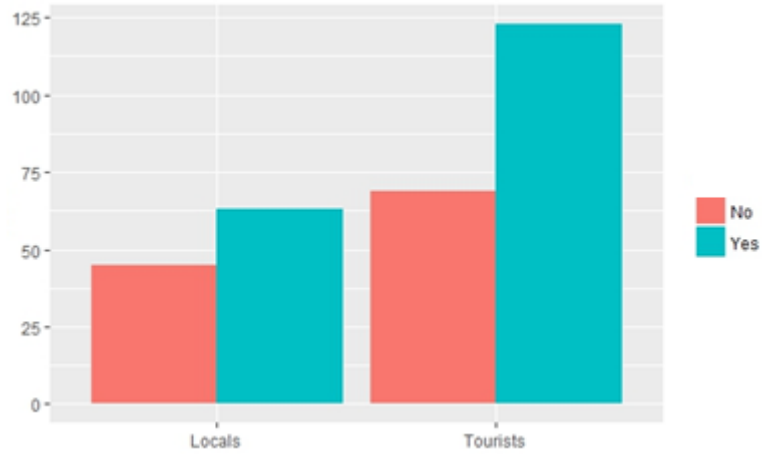


Figure 37

Compared proportion for No.9 question of survey between locals and tourists

Statistical analysis: X-squared = 0.73515, df = 1, p-value = 0.3912

There are not significant differences between the two samples in this question [Figure 37].

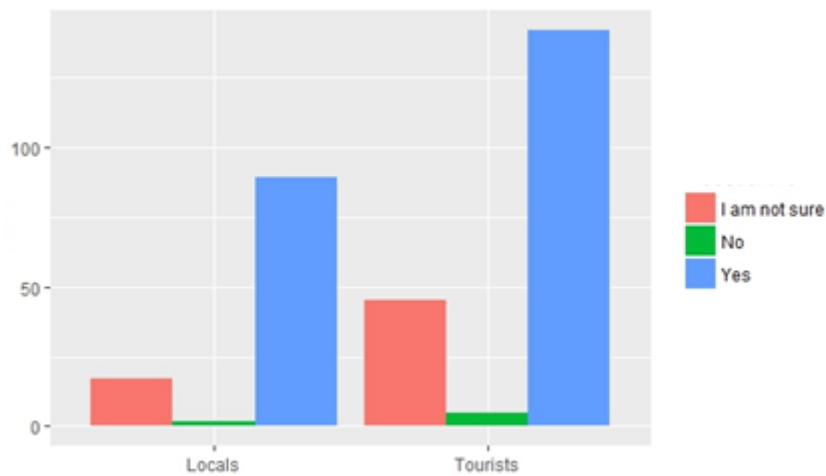


Figure 38

Compared proportion for No.10 question of survey between locals and tourists

Statistical analysis: X-squared = 2.7898, df = 2, p-value = 0.2479

As a result of the statistical analysis this is not significant changes of the comparison in this question [Figure 38].

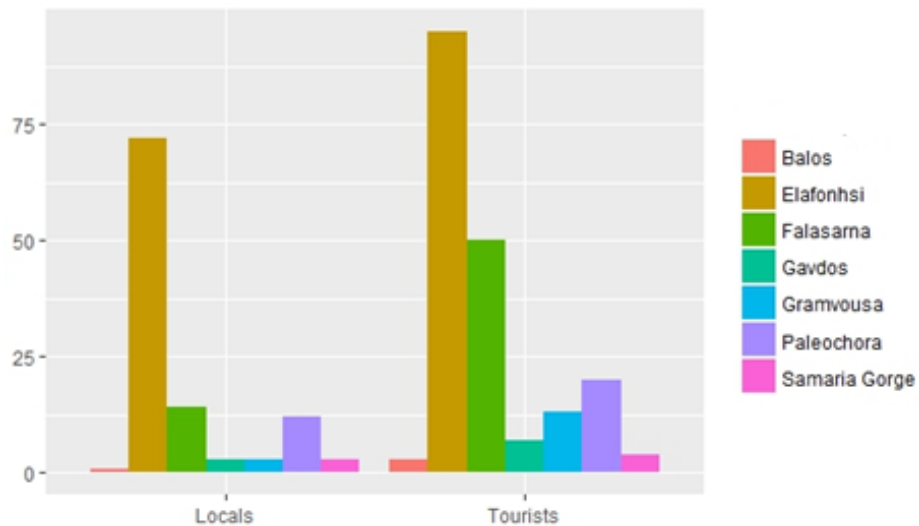


Figure 39

Compared proportion for No.11 question of survey between locals and tourists

Statistical analysis: X-squared = 11.817, df = 6, p-value = 0.06618

In the comparison about the most favorable place [Figure 39] there are not significant differences for further analysis.

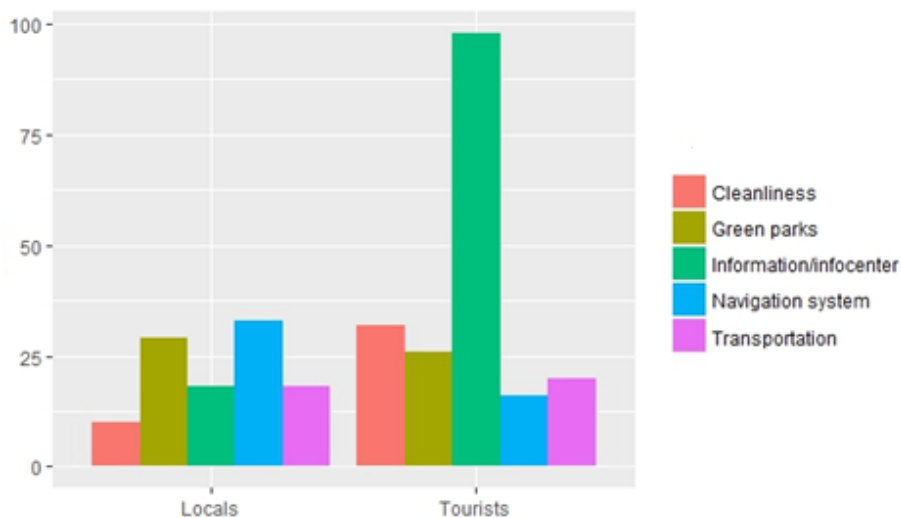


Figure 40

Compared proportion for No.12 question of survey between locals and tourists

Statistical analysis: X-squared = 53.541, df = 4, p-value = 6.567e-11

The differences between local residents and tourists in the last question [Figure 40] of the survey present interesting. It is obvious that the lack of information and information centers in the region are in the top of dislikes of tourists. On the other hand, local people consider navigation system as major problem. Cleanliness is the second problem of tourist but last in the row for local residents.

6) DISCUSSION

Combine all the former information, from direct observation, published papers and further findings as well as from the further analysis of the questionnaire, are created by the researcher scenarios with threats and opportunities about the region.

Threats:

- Mass tourism near the location of Natura 2000 with bad impact in natural resources
- Disturbances in the species of Natura 2000 from humans
- Destruction of the area with bad and unorganized
- Not well-informed people

Opportunities:

- Current natural state of the area requires no large investments to make it favorable
- The people already respect the ecological value so it is feasible to attract more people with a efficient plan
- Meeting points for scientists
- Educational Center relative to Natura 2000
- Eco-Tourism

Based on opportunities the next step is to create a vision for further ecological and sustainable development. The proposed uses of Natura 2000 as well as the creation of a new construction relative to ecological value of the place are in the epicenter of the thesis.

6.1) RECREATION USES AND ACTIVITIES IN NATURA 2000 SITES

6.1.1) ACTIVITIES RELATIVE TO OVERLAND

Hiking - trekking: Ideal Way exploration areas Natura 2000 is walking through paths that cross rich regions flora and fauna, as well as monuments different eras and cultures.



Figure 41

Kedrodasos beach, the path E4 goes through the area and continues in Elafonhsi beach

The E4 path [Figure 41, Table 4] sets off at the Pyrenees, through the Alps and traverses the whole of Greece, reaching Kissamos in Crete. It then traverses Crete until Kato Zakros and ends in Cyprus. Walkers that follow the E4 have the chance, by walking on paths, climbing rocks and crossing wild gorges and forgotten residences, to discover hidden corners, to enjoy nature in all its grandeur and to experience traditions and customs alongside authentic people. The paths traverse almost the whole bulk of the mountain range and offer the most spectacular views.

Location	Km	Suitable season
Kasteli, Kissamos - Sfinari	22.5	Spring - Autumn
Sfinari - convent of Chrissoskalitissa	32	Spring - Autumn
Chrissoskalitissa - Paleochora	22	Spring - Autumn
Paleochora - Sougia	14.5	Spring - Autumn
Sougia - Agia Roumeli	20	April - September
Agia Roumeli - Loutro	13	All year
Loutro - Fragokastelo	19.5	All year
Sougia - Koustoyerako - Omalos	24.5	Spring - Autumn
Sougia - Gorge of St. Irene	15	May - September
Omalos - St. Roumeli	18	May - October
Omalos – Kallergis Mountain Shelter	5	Late spring – early autumn

Table 4

Suggested routes of the E4 paths in the region

Source: <http://www.chaniacrete.gr/index.php/en/alternative-tourism>

Caving: Crete, with more than 4,500 cave formations [Table 5], considered a paradise for cavers. Among these formations included some of the deepest abysses of Greece. The table 5 presents a number of caves near or inside the areas on Natura 2000.

Name of cave	Information
Kato Sarakina	Located about 2.5 km north of Therisso at the foot of the White Mountains
Samonas	Located in the homonymous village in the province of Apokoronas in Chania
Ellinospilios	The cave is near the beach Fluffy, Akrotiri Rodopou Chania.
Demonospilio	It is located near the entrance of the Samaria Gorge
Sfakion– Asfendou	Located in Sfakia, discovered rock paintings dating from the Neolithic Age
Elephant Cave	The only cave in Greece where elephant bones have been found
Gourgouthakas	The largest cave in depth of Greece and the second in the Balkans.
Zoures and Harakas	Located near the village Azogires Paleochora, Chania
Agia Sofia[42]	The second largest cave in Crete and there you will see impressive and numerous stalagmites and stalactites

Table 5

Famous caves of the region with further information



Figure 42

Photo of the Cave of Agia Sofia, famous in the region Chania

Source: <http://www.cretanbeaches.com/el/σπήλαια-της-κρήτης>

Climbing: In slopes of mountains and gorges of Crete are climbing areas. Therisos gorge [Figure 43] is one of the most popular areas for climbing.

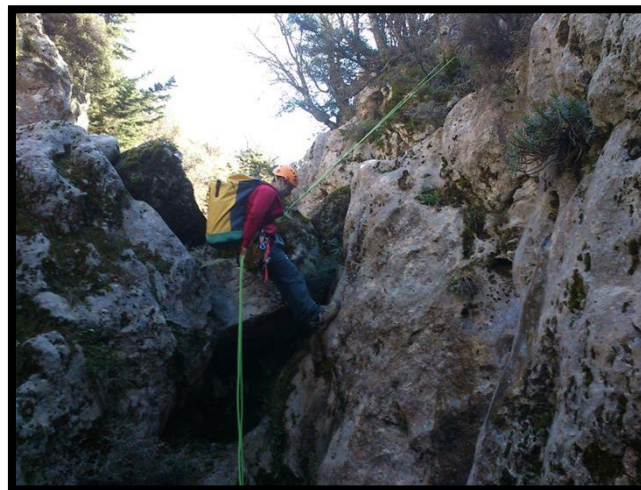


Figure 43

Photo of climbing in Thesisos gorge, touristic destination for his natural value

Source: <http://www.cretanbeaches.com/el/φαράγγια-της-κρήτης>

Mountain bike: Numerous rural and forest roads Crete compose an extremely rich network of beautiful trails between in diverse landscapes.

Skiing: The geomorphology of mountains of Crete in combination with the prevailing climatic conditions allows the possibility to do ski mountaineering as well as ski de fond.

Riding: Several areas have farms and equestrian centers organized offering riding lessons and trips to variety of routes.

6.1.2) ACTIVITIES RELATIVE TO WATER

Sailing: The High Sea Crete is ideal for sailing, an activity linked with its long tradition of Sea Island.

Sea kayak: The coastline and Crete bays offer excellent sea kayak exercise fields, in clean blue water.

Scuba- Diving: The transparency of the Cretan seas, the multiplicity of seabed and the rich marine life housed within them, they are ideal for field underwater exploration.

Rafting Rivers: Crete has rivers natural beauty, with flow along throughout the years, suitable for River Trek.

Cannoning: The imposing gorges Crete offer a wealth of natural and geological and rich ecosystems. Several of these are easily accessible, while some require special equipment and techniques their cross.

Surfing: In the region there are some beaches like Platanias and Sfinari that is suitable for surfing. The windy weather in the island helps activities like that a lot whole over the year.

6.1.3) ACTIVITIES RELATIVE TO AIR

Paragliding: In many areas of Crete are ideal conditions for paragliding [Table 6].

Location	View
Nea Chora	Over the city of Chania
Omalos	Over the Samaria Gorge and the Gigilos
Falasarna	Over the ancient town in a west direction
Lake Kournas	Over the lake
Varipetro	Over of the Lefka Ori and the lake of Agia
Elafonhsi	Over of Elafonissi and the Libyan Sea
Paleochora	The Libyan Sea

Table 6

Paragliding location with information about the view

6.1.4) SCIENTIFIC USE OF NATURA 2000

Except from sport activities and exploration in Natura 2000 areas, the scientific value in the most of the areas are remarkable. It will be magnet destination for scientists and institutes relative to species and ecosystem. For example the Cave of St. Sophia is important for biologists because here the spider *Pholcus creticus* lives. The specie is

stenoendemic that means that is found only in this cave. One other significant specie is the Cretan Kri-kri (*Capra aegagrus creticus*) [Figure 44] that was endangered for many years. Some years ago anyone could find the animal in the whole island of Crete. The last years the location of Kri-kri is the Samaria Gorge which is the place that protects the animal the last years.



Figure 44

Photo of the famous Cretan Kri-kri background traditional landscape of Cretan island

Source: http://www.greece.com/photos/destinations/Crete/Chania/Settlement/Kamaria/ROMEO_KRI-KRI/31710038

That was only a small example of the many species that scientists could find in Crete and is unique. The scientific value could be one of the pylons which could develop a new touristic style in the island. It is really important to have scientist as tourists in the region of Chania and more specific in the Nature 2000 areas whole over the year.

6.2) NATURA 2000 INFORMATION CENTER AND GREEN PARK

In the investigation about the information center or amenities for the stakeholders found that there is only one center, the Samaria National Park. The Samaria National Park is located in Samaria Gorge near to Omalos Mountain.

For the tourist season of 2016 the Samaria National Park remained open from April 15 until the end of October, for 192 days throughout the length and from 2 inputs for 195 days only from the south entrance. The total number of visitors was 147 643, a figure increased by 9.81% compared to 134 451 for the season of 2015. The average term visitors per day was 757 people, while the months with the largest numbers of visitors was August with 30 695 people, the July with 27392 people and September with 27911 people (Source: <http://www.samaria.gr/en/home-2/>).

The issue with the Samaria National park is that the location is not accessible the whole year because of climate situation up to the mountain. The weather makes the road trip difficult and sometimes impossible. Combining the recommendations of the

people and the lack of information centre, the idea is a development of a new center area with park. Elafonhsi is the most famous beach in the island. Affirmative the trip advisor source said that Elafonhsi have chosen as the second best beach in Europe. Furthermore, it the best place from every different style of stakeholder in the questionnaire. The idea is to find a location accessible whole over the year and near to Elafonhsi. The concept is that the people who are not so ready to cross the Samarias Gorge or prefer only to relax in beaches the summer period will have the opportunity to visit the park next to Elafonhsi. Furthermore, the location is going to be accessible and open for everyone whole over the year. The new park will be designed totally different from Samaria Gorges and more focus on Natura 2000 areas and biodiversity. In the outside area of the new creation, the idea is to design a green park with benches and places with educational character toys and activities as well as amenities for the people. The potential future location will be somewhere between Falasarna and Elafonhsi. The time from Chania city estimates only one hour. The following image is an inspirational perspective of the place [Figure 45].



Figure 45

The image illustrates a plan of two architects about a museum of biodiversity

Source: <http://inhabitat.com/gorgeous-beautiful-biodiversity-museum-fuses-a-thatched-exterior-with-a-historic-mansion/guinee-potin-architectes1>

7) CONCLUSION

Chania region is rich and valuable from ecological point of view. The recreational uses and the type of the tourism that will be part on these places are significant and various. Looking all the steps of the research I would to stay more in some of the results of questionnaire. In the analysis of the comparison between the respondents of city center and suburban found significant changes. The majority of the respondents was from city center and by 62 per cent tourists was more than locals. This is a fact that in the region the summer period anyone could find more easily tourists than local residents. Second the people from the city center are more optimistic with the future scenario about sustainable tourism in the region than the people from suburban. Furthermore, people from city center are more disappointed with the cleanliness and navigation system than the people from suburban. On the other hand, the respondents from suburban seem to be unsatisfied with the transportation more than the people located in city center.

In the comparison between locals and tourists respondents observed more significant differences. Tourists have better understanding about the concept of sustainable tourism. The dislikes of the people is really important for the sustainable future development. In this question, travelers seem strongly disappointed with the information system and information centers. On the other hand, local residents feel more disappointment with lack of green parks and navigation system.

In general, the summary of results of questionnaire as well as from documentary analysis of different sources show that the people are not so familiar with the concept the benefits and framework of sustainable tourism. Otherwise, people respect the ecological value but not the economical and social benefits of Natura 2000 areas. The interesting fact is that the great proportion of people supports the local production with the 84 per cent of the people to consume local products. The result is indicative of the sustainability of tourism. First the fact that the people try the local restaurants is a good start. Furthermore, the percentage of people that spend time in mountains and parks as well as beaches is quite high. Tourists' tendency to spend time in nature is something that I exploited in order to promote our sustainable development plan. A right management of the areas could lead to an increase of the percentage of people that spend time in areas with nature value.

The other important finding is that almost the half of the respondents did not seem to concern about the impacts of their travel. Overall, the results will be not characterized as positives or negatives. My recommendation for future research and development refers to the revaluation of transportation system near to Natura 2000 areas, the efficient installation of infrastructure near to Natura 2000 areas as well as maps and magazines in many different languages for the ecological value of the region. Except from my recommendations it will be fundamental for future development is the investigation of the touristic field in terms of economic crisis in Greece. The optimal

solution is to create a framework with the less natural and financial use but efficient management and demand.

The process of research from the start until the end was an amazing experience through the selected place as well the acquisition of knowledge of various fields of science. The visitor's preferences and recommendations gave us inspiration to create a vision. The multidisciplinary field of tourism and sustainability create sometimes the feeling that there is not certain result or wrong result. Everything is a part of the further decision making process that ends up with an idea or plan. The last years many scientists focus on the preservation of the existing nature and the idea of keeping the resources for the future generation vivid as much as possible. My research consists an effort to come closer to the concept of sustainable tourism in Greek islands. The alternative type of tourism is one great idea to avoid mass tourism in order to avoid the decrease of natural resources.

REFERENCES

Scientific papers, books

Ballesteros, E. R. (2011): Social-Ecological Resilience and Community-Based Tourism an Approach from Agua Blanca, Ecuador. *Tourism Management*, 655-666.

Bill Bramwell, Channel View Publications (2004): *Coastal Mass Tourism: Diversification and Sustainable Development in Southern Europe*, 269-289.

Boon, P., Fluker, M., Wilson, N. (2008): A Ten-Year Study of the Effectiveness of an Educative Programme in Ensuring the Ecological Sustainability of Recreational Activities in the Brisbane Ranges National Park, South-Eastern Australia. *Journal of Sustainable Tourism*, 681-697.

Butler, R.W. (1999): Sustainable tourism: A state of the art review. *Tourism Geographies*, 7-25.

Clarke, J. (1997): A framework of approaches to sustainable tourism. *Journal of Sustainable Tourism*, 224-233.

Collins, A. (1999): Tourism development and natural capital. *Annals of Tourism Research*, 98-109.

Cohen, E. (2002): Authenticity, equity and sustainability in tourism. *Journal of Sustainable Tourism*, 267-276.

Dolnicar, S., Crouch, G., Long, P. (2008): Environment-friendly Tourists: What Do We Really Know about Them? *Journal of Sustainable Tourism*, 197-210.

Edgell, David L.(2006): *Managing Sustainable Tourism: A Legacy for the Future*. New York: Haworth Press.

José F. Molina-Azorín and Xavier Font (2015): Mixed methods in sustainable tourism research: an analysis of prevalence, designs and application in JOST (2005-2014), *Journal of Sustainable Tourism*.

Ioannis Spilanis and Helen Vayanni (2003): Sustainable Tourism: Utopia or Necessity? The Role of New Forms of Tourism in the Aegean Islands, *Coastal Mass Tourism: Diversification and Sustainable Development in Southern Europe (Aspects of Tourism)* by Bill Bramwell, 269-289.

Inskeep, E. (1991): *Tourism Planning – An Integrated and Sustainable Development Approach*. New York: Van Nostrand Reinhold.

Koutsouris, A. and Gaki, D. (1998): The quest for a sustainable future: Alternative tourism as the level of development. *Proceedings of the First Global Conference on*

Tourism and Culture in the Sustainable Development. Athens: National Technical University of Athens.

Lagos, D. (1998): Tourism and sustainable development at regional level: The case of Greek island region. Proceedings of the International Congress on Sustainable Development in the Islands and the Role of Research and Higher Education. Rhodes, Greece.

Lagos, D. and Gkrimpa, E. (2000): The special and alternative forms of tourism: Their contribution to the development of Greek islands and special destinations. Proceedings of the International Scientific Conference on Tourism on Islands and Specific Destinations. Chios, Greece: University of the Aegean.

Lisa Ruhanen, Betty Weiler, Brent D. Moyle & Char-lee J. McLennan (2015) Trends and patterns in sustainable tourism research: a 25-year bibliometric analysis, *Journal of Sustainable Tourism*, 517-535.

Loukissas, P. (1982): Tourism's regional development impacts – a comparative analysis of the Greek islands. *Annals of Tourism Research* 9, 523–41.

Mantoglou, A., Hadjibiros, K., Panagopoulos, P. and Varveris, T. (1998): Sustainable development programme for the Greek islands. Proceedings of the International Congress on Sustainable Development in the Islands and the Role of Research and Higher Education. Rhodes, Greece.

Maythawin Polnyotee(2014): The Survey of Factors Influencing Sustainable Tourism at Patong Beach, Phuket Island, Thailand *Mediterranean Journal of Social Sciences*,651-655

Middleton, Victor T.C, and Hawkins, Rebecca, (1998): *Sustainable Tourism: A Marketing Perspective*. Massachusetts: Butterworth-Heinemann.

Miller, Graham and Twining-Ward, Louise, (2005): *Monitoring for a Sustainable Tourism Transition: The Challenge of Developing and Using Indicators*. Massachusetts: CABI Publishing.

Rebecca Sims (2009): Food, place and authenticity: local food and the sustainable tourism experience, *Journal of Sustainable Tourism*, 321-336.

Sanit Boonchoo, (1984): *Community Development: People Participation*. Bangkok: Thammasat University Publishing.

Sharpley, R. (2009): *Tourism Development And The Environment: Beyond Sustainability?* United Kingdom: Earthscan.

Spilanis, I. (1995): Tourism and environment in the insular regions: The tourism development in Lesvos, with the exploitation of cultural and natural resources [in Greek]. Proceedings of the Conference in Tourism and Environment in the Insular Regions. Crete:TEE.

UK Tourism Survey. (2004): Tourism Statistics. Retrieved January 7th, 2008, from<www.staruk.org.uk>

Tashakkori, A., & Teddlie, C. (2010): Handbook of mixed methods in social & behavioral research (2nd ed.). Thousand Oaks, CA: Sage

Tosun, C. (2005): Stages in the Emergence of a Participatory Tourism Development Approach in the Developing World. *Geoforum* 36, 333-352.

Tosun, C. (2000): Limits to Community Participation in the Tourism Development Process in Developing Countries. *Tourism Management* 21, 613-633.

UNEP, United Nations Environment Programme (2003): Tourism and Local Agenda 21 (The Role of Local Authorities in Sustainable Tourism).

Walker, K., & Moscardo, G. (2014): Encouraging sustainability beyond the tourist experience: Ecotourism, interpretation and values. *Journal of Sustainable Tourism*, 1175_1196.

Woodland, M., & Acott, T. (2007): Sustainability and local tourism branding in England's South Downs. *Journal of Sustainable Tourism*, 715–734.

World Tourism Organization (WTO). (1998): Guide for local authorities on developing sustainable tourism. Madrid: World Tourism Organization.

Xiao, H., & Smith, S.L.J. (2006): The making of tourism research: Insights from a social science journal. *Annals of Tourism Research*, 490–507.

Xiao, H., & Smith, S.L.J. (2007): The use of tourism knowledge: Research propositions. *Annals of Tourism Research*, 310–331.

Yapaporn Roop-Ngam, (2002): Participation on Bureaucratic Reform of the Bureau of the Budget. Research Paper of Master of Arts (Social Development), National Institute of Development Administration, Bangkok.

Zhenhua Liu (2003): Sustainable Tourism Development: A Critique, *Journal of Sustainable Tourism*, 459-475.

Web sources

A weblog devoted to the future of design

<http://inhabitat.com/gorgeous-beautour-biodiversity-museum-fuses-a-thatched-exterior-with-a-historic-mansion/guinee-potin-architectes>

Site of Chania region with general information

<http://www.chaniacrete.gr/index.php/en/alternative-tourism>

<https://www.chania.gr/chrisima/dhmografika/dimografika.html>

www.cretanbeaches.com/el/σπήλαια-της-κρήτης

<http://www.samaria.gr/en/home-2/>

www.greece.com/photos/destinations/Crete/Chania/Settlement/Kamaria/ROMEO_KRI-KRI/31710038

Statistical site of demographics in Greece

www.sete.gr/el/statistika-vivliothiki/statistika/

Site of the national Greek television

<http://www.ert.gr/ert-chanion-dr-petros-limperakis-lanthasmena-theorounte-mpampoules-i-perioches-natura/>

APPENDIX I

FORM OF QUESTIONNAIRE

1) Are you local resident of Chania?

Yes	No
-----	----

2) Do you believe you understand the concept of Sustainable tourism?

Very familiar	I am not sure	Unfamiliar
---------------	---------------	------------

3) Where do you spend the most of your time in Chania?

Bars, Restaurants, ect	Museums, Historical center, etc	Mountains, Parks, Beaches, ect
------------------------	---------------------------------	--------------------------------

4) Did you make an effort to consume locally produced food and drinks instead of imported goods?

Yes	No
-----	----

5) Do you use local transportation for your excursions?

Yes	Sometimes	No
-----	-----------	----

6) Where did you select to stay in Chania?

Resort, Hotel	Apartment	Bed&Breakfast	Hostel	Cottage, Villa	Camping	With friends or family
---------------	-----------	---------------	--------	----------------	---------	------------------------

7) Do you believe natural resource protection and tourism can be compatible?

Agree	Don't know	Disagree
-------	------------	----------

8) Do you believe the community of Chania would benefit from developing a sustainable tourism framework?

Agree	Don't know	Disagree
-------	------------	----------

9) Have you ever considered the environmental impact as a consequence of your travels?

Yes

No

10) Do you think sustainability is ever fully achievable in Chania?

Yes

I am not sure

No

11) Write your favourite place.

12) Write something that you do not like or miss from the region.

RESULTS FROM QUESTIONNAIRE

1	2	3	4	5	6	7	8	9	10	Favorite place	Dislikes
Locals	Very familiar	Mountains,Parks,Beaches,ect	Yes	Yes	With friends or family	Agree	Agree	Yes	Yes	Falasarua	Information/infocenter
Locals	I am not sure	Bars,Restaurants,ect	Yes	No	Apartment	Don't know	Don't know	No	I am not sure	Falasarua	Transportation
Tourists	Very familiar	Bars,Restaurants,ect	Yes	Sometimes	Cottage,Villa	Agree	Agree	Yes	Yes	Gramvousa	Information/infocenter
Tourists	Very familiar	Museums,Historical center,etc	Yes	Sometimes	With friends or family	Agree	Agree	Yes	Yes	Elafonhsi	Information/infocenter
Tourists	Very familiar	Bars,Restaurants,ect	Yes	Sometimes	Bed&Breakfast	Agree	Agree	Yes	Yes	Falasarua	Information/infocenter
Tourists	Very familiar	Bars,Restaurants,ect	Yes	Sometimes	Apartment	Agree	Agree	Yes	Yes	Paleochora	Information/infocenter
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Sometimes	Camping	Agree	Agree	Yes	Yes	Paleochora	Information/infocenter
Tourists	Unfamiliar	Bars,Restaurants,ect	No	Sometimes	Resort,Hotel	Don't know	Agree	No	I am not sure	Elafonhsi	Transportation
Tourists	I am not sure	Bars,Restaurants,ect	No	No	Apartment	Agree	Agree	No	I am not sure	Falasarua	Transportation
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Yes	Apartment	Agree	Agree	Yes	I am not sure	Falasarua	Green parks
Locals	Very familiar	Bars,Restaurants,ect	Yes	Sometimes	With friends or family	Agree	Agree	Yes	Yes	Gavdos	Transportation
Locals	Very familiar	Museums,Historical center,etc	Yes	No	With friends or family	Agree	Agree	Yes	Yes	Falasarua	Information/infocenter
Locals	Very familiar	Mountains,Parks,Beaches,ect	Yes	No	With friends or family	Agree	Agree	Yes	Yes	Elafonhsi	Navigation system
Locals	I am not sure	Bars,Restaurants,ect	Yes	No	With friends or family	Don't know	Don't know	No	I am not sure	Gavdos	Transportation
Tourists	Very familiar	Bars,Restaurants,ect	Yes	No	Camping	Agree	Agree	Yes	Yes	Gavdos	Information/infocenter
Tourists	Very familiar	Bars,Restaurants,ect	Yes	No	Camping	Agree	Agree	Yes	Yes	Gavdos	Information/infocenter
Tourists	Unfamiliar	Bars,Restaurants,ect	No	No	Apartment	Don't know	Don't know	No	I am not sure	Gavdos	Transportation
Tourists	Unfamiliar	Bars,Restaurants,ect	No	No	Bed&Breakfast	Disagree	Don't know	No	Yes	Gavdos	Information/infocenter
Tourists	Very familiar	Museums,Historical center,etc	Yes	No	Camping	Agree	Agree	Yes	Yes	Gavdos	Green parks
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	No	Camping	Agree	Agree	Yes	Yes	Samaria Gorge	Information/infocenter
Tourists	Very familiar	Mountains,Parks,Beaches,ect	No	No	Camping	Agree	Agree	Yes	Yes	Falasarua	Information/infocenter
Tourists	Very familiar	Bars,Restaurants,ect	Yes	No	Bed&Breakfast	Agree	Agree	Yes	Yes	Gavdos	Information/infocenter
Tourists	Very familiar	Bars,Restaurants,ect	Yes	No	With friends or family	Agree	Agree	Yes	Yes	Gavdos	Information/infocenter
Tourists	Very familiar	Bars,Restaurants,ect	Yes	Sometimes	Cottage,Villa	Agree	Agree	No	I am not sure	Paleochora	Green parks
Tourists	Very familiar	Bars,Restaurants,ect	Yes	No	Apartment	Agree	Agree	Yes	Yes	Gramvousa	Transportation
Locals	Very familiar	Bars,Restaurants,ect	Yes	Sometimes	With friends or family	Agree	Agree	Yes	Yes	Elafonhsi	Transportation
Locals	I am not sure	Bars,Restaurants,ect	Yes	No	Resort,Hotel	Don't know	Don't know	No	Yes	Elafonhsi	Transportation
Locals	Very familiar	Mountains,Parks,Beaches,ect	Yes	Yes	Hostel	Agree	Agree	Yes	Yes	Elafonhsi	Cleanliness
Tourists	Unfamiliar	Bars,Restaurants,ect	Yes	Yes	Resort,Hotel	Don't know	Don't know	No	No	Falasarua	Green parks
Tourists	Unfamiliar	Bars,Restaurants,ect	No	Yes	Resort,Hotel	Don't know	Don't know	No	I am not sure	Paleochora	Information/infocenter
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Yes	Apartment	Don't know	Agree	Yes	Yes	Elafonhsi	Information/infocenter
Tourists	Very familiar	Bars,Restaurants,ect	Yes	No	Bed&Breakfast	Agree	Agree	Yes	Yes	Elafonhsi	Transportation
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Yes	Cottage,Villa	Agree	Agree	Yes	Yes	Falasarua	Information/infocenter
Tourists	Unfamiliar	Bars,Restaurants,ect	No	Yes	Resort,Hotel	Agree	Agree	No	I am not sure	Paleochora	Information/infocenter
Tourists	I am not sure	Mountains,Parks,Beaches,ect	Yes	Yes	Resort,Hotel	Agree	Agree	No	Yes	Elafonhsi	Information/infocenter
Tourists	Very familiar	Museums,Historical center,etc	Yes	Sometimes	Apartment	Agree	Agree	No	Yes	Elafonhsi	Transportation
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Yes	Resort,Hotel	Agree	Agree	No	Yes	Elafonhsi	Information/infocenter
Tourists	Unfamiliar	Bars,Restaurants,ect	Yes	Yes	Resort,Hotel	Agree	Agree	No	Yes	Elafonhsi	Information/infocenter
Tourists	Unfamiliar	Bars,Restaurants,ect	Yes	No	Resort,Hotel	Don't know	Don't know	No	Yes	Falasarua	Transportation
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Yes	Hostel	Agree	Agree	Yes	Yes	Paleochora	Information/infocenter
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	No	Resort,Hotel	Agree	Agree	Yes	Yes	Gramvousa	Information/infocenter
Tourists	Unfamiliar	Bars,Restaurants,ect	No	Yes	Resort,Hotel	Don't know	Don't know	No	I am not sure	Falasarua	Green parks
Locals	Very familiar	Bars,Restaurants,ect	Yes	No	Apartment	Agree	Agree	Yes	Yes	Falasarua	Green parks
Locals	Very familiar	Mountains,Parks,Beaches,ect	Yes	Yes	With friends or family	Agree	Agree	Yes	Yes	Elafonhsi	Green parks
Locals	I am not sure	Bars,Restaurants,ect	Yes	No	Apartment	Don't know	Don't know	No	I am not sure	Paleochora	Transportation
Locals	I am not sure	Bars,Restaurants,ect	Yes	No	With friends or family	Agree	Agree	Yes	Yes	Falasarua	Green parks
Locals	Very familiar	Mountains,Parks,Beaches,ect	Yes	No	Apartment	Agree	Agree	Yes	Yes	Samaria Gorge	Transportation
Locals	Very familiar	Museums,Historical center,etc	Yes	No	With friends or family	Agree	Agree	Yes	Yes	Elafonhsi	Green parks
Tourists	Very familiar	Bars,Restaurants,ect	Yes	No	Bed&Breakfast	Agree	Agree	Yes	Yes	Elafonhsi	Green parks
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Yes	Resort,Hotel	Agree	Agree	Yes	Yes	Elafonhsi	Green parks
Tourists	Very familiar	Mountains,Parks,Beaches,ect	No	Yes	Apartment	Agree	Agree	Yes	Yes	Elafonhsi	Information/infocenter
Tourists	I am not sure	Bars,Restaurants,ect	Yes	No	Resort,Hotel	Agree	Agree	Yes	Yes	Elafonhsi	Information/infocenter
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	No	Resort,Hotel	Agree	Agree	No	Yes	Elafonhsi	Green parks
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	No	Cottage,Villa	Agree	Agree	No	Yes	Falasarua	Information/infocenter
Tourists	Unfamiliar	Bars,Restaurants,ect	No	No	Resort,Hotel	Don't know	Agree	No	No	Elafonhsi	Information/infocenter
Tourists	Unfamiliar	Bars,Restaurants,ect	Yes	No	Resort,Hotel	Disagree	Don't know	No	I am not sure	Elafonhsi	Cleanliness
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Yes	Resort,Hotel	Agree	Agree	Yes	Yes	Gramvousa	Green parks
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Sometimes	Bed&Breakfast	Agree	Agree	Yes	Yes	Elafonhsi	Cleanliness
Tourists	Very familiar	Bars,Restaurants,ect	Yes	No	Apartment	Agree	Agree	No	I am not sure	Elafonhsi	Green parks
Tourists	Very familiar	Bars,Restaurants,ect	Yes	No	Resort,Hotel	Agree	Agree	No	I am not sure	Elafonhsi	Information/infocenter
Tourists	Very familiar	Bars,Restaurants,ect	Yes	No	Bed&Breakfast	Agree	Agree	Yes	I am not sure	Elafonhsi	Information/infocenter
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Sometimes	Bed&Breakfast	Agree	Agree	No	Yes	Gramvousa	Navigation system
Tourists	Unfamiliar	Bars,Restaurants,ect	Yes	No	Resort,Hotel	Don't know	Don't know	Yes	I am not sure	Paleochora	Information/infocenter
Tourists	I am not sure	Bars,Restaurants,ect	Yes	No	Resort,Hotel	Don't know	Don't know	No	I am not sure	Elafonhsi	Navigation system
Tourists	Unfamiliar	Bars,Restaurants,ect	No	No	Resort,Hotel	Agree	Agree	Yes	Yes	Falasarua	Information/infocenter
Tourists	I am not sure	Bars,Restaurants,ect	No	No	Bed&Breakfast	Don't know	Don't know	No	I am not sure	Falasarua	Green parks
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Yes	Bed&Breakfast	Agree	Agree	Yes	Yes	Elafonhsi	Information/infocenter
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Sometimes	With friends or family	Agree	Agree	Yes	No	Paleochora	Information/infocenter
Tourists	Unfamiliar	Bars,Restaurants,ect	No	No	Resort,Hotel	Disagree	Disagree	No	No	Falasarua	Information/infocenter
Tourists	I am not sure	Bars,Restaurants,ect	Yes	No	Resort,Hotel	Don't know	Don't know	No	I am not sure	Falasarua	Navigation system

Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Yes	Cottage,Villa	Agree	Agree	Yes	Yes	Paleochora	Information/infocenter
Tourists	Very familiar	Museums,Historical center,etc	Yes	Yes	Apartment	Agree	Agree	Yes	Yes	Elafonhsi	Transportation
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Sometimes	Apartment	Agree	Agree	Yes	Yes	Samaria Gorge	Information/infocenter
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Sometimes	Apartment	Agree	Agree	Yes	Yes	Falasarna	Transportation
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Yes	Apartment	Agree	Agree	Yes	Yes	Elafonhsi	Information/infocenter
Tourists	Unfamiliar	Bars,Restaurants,ect	No	No	Resort,Hotel	Don't know	Don't know	No	Yes	Falasarna	Transportation
Tourists	I am not sure	Bars,Restaurants,ect	Yes	Sometimes	Apartment	Don't know	Don't know	No	I am not sure	Gramvousa	Information/infocenter
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Sometimes	Resort,Hotel	Agree	Agree	Yes	Yes	Falasarna	Information/infocenter
Tourists	I am not sure	Bars,Restaurants,ect	Yes	Sometimes	Apartment	Don't know	Don't know	No	I am not sure	Elafonhsi	Information/infocenter
Tourists	Very familiar	Mountains,Parks,Beaches,ect	Yes	Yes	Apartment	Agree	Agree	Yes	Yes	Samaria Gorge	Information/infocenter
Tourists	Unfamiliar	Bars,Restaurants,ect	No	No	Resort,Hotel	Don't know	Don't know	No	Yes	Falasarna	Transportation

	City	Suburban	Locals	Tourists	Summary	On line survey
Question 1						
Tourists	133	59	0	192	108	45
Locals	91	17	108	0	192	55
Question 2						
I am not sure	38	12	24	26	50	43
Unfamiliar	66	14	37	43	80	6
Very familiar	120	50	47	123	170	51
Question 3						
Bars,Restaurants,ect	121	44	71	97	165	58
Mountains,Parks,Beaches,ect	91	24	34	81	115	33
Museums,Historical center,etc	12	8	3	17	20	9
Question 4						
Yes	184	63	99	148	247	90
No	40	13	9	44	53	10
Question 5						
Yes	97	19	44	72	116	35
Sometimes	82	15	38	59	97	42
No	45	42	26	61	87	23
Question 6						
Apartment	116	14	35	95	130	43
Bed&Breakfast	6	13	0	19	19	3
Camping	0	6	0	6	6	4
Cottage,Villa	23	4	0	27	27	0
Hostel	3	2	1	4	5	0
Resort,Hotel	15	23	1	37	38	3
With friends or family	61	14	71	4	75	47
Question 7						
Agree	143	56	62	137	199	79
Don't know	55	17	34	38	72	17
Disagree	26	3	12	17	29	4
Question 8						

Agree	181	59	97	143	240	88
Don't know	40	16	11	45	56	12
Disagree	3	1	0	5	4	0
Question 9						
Yes	140	46	63	123	186	63
No	84	30	45	69	144	37
Question 10						
Yes	181	50	89	142	231	48
I am not sure	40	22	17	45	62	46
No	3	4	2	5	7	6
Favorite place						
Elafohisi	137	30	72	95	167	No results
Falasarna	45	19	14	50	64	No results
Paleochora	23	9	12	20	32	No results
Balos	4	0	1	3	4	No results
Gavdos	1	9	3	7	10	No results
Gramvousa	9	7	3	13	16	No results
Samaria Gorge	5	2	3	4	7	No results
Disfavors						
Cleanliness	39	3	10	32	42	No results
Navigation system	45	4	33	16	49	No results
Transportation	78	15	18	20	38	No results
Green parks	39	16	29	26	55	No results
Information/infocenter	23	38	18	98	116	No results

APPENDIX II

STATISTICAL ANALYSIS IN R STUDIO

COMPARISON BETWEEN CITY CENTER AND SUBURBAN

```
ur <- read.table("finale2.txt", header=T, sep="\t")
```

1) Question 1

```
t <- table(ur$Question.1, ur$city)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=city, fill=Question.1)) + geom_bar(position="dodge")
```

```
ggsave("Question.1.png", dpi=300, height = 10, width = 20, units = "cm")
```

```
X-squared = 7.4359, df = 1, p-value = 0.006394
```

2) Question 2

```
t <- table(ur$Question.2, ur$city)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=city, fill=Question.2)) + geom_bar(position="dodge")
```

```
ggsave("Question.2.png", dpi=300, height = 10, width = 20, units = "cm")
```

```
X-squared = 4.1371, df = 2, p-value = 0.1264
```

3) Question 3

```
t <- table(ur$Question.3, ur$city)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=city, fill=Question.3)) + geom_bar(position="dodge")
```

```
ggsave("Question.3.png", dpi=300, height = 10, width = 20, units = "cm")
```

```
X-squared = 3.6409, df = 2, p-value = 0.162
```

4) Question 4

```
t <- table(ur$Question.4, ur$city)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=city, fill=Question.4)) + geom_bar(position="dodge")
```



```
ggsave("Question.4.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 1.1366e-30, df = 1, p-value = 1
```

5) Question 5

```
t <- table(ur$Question.5, ur$city)
chisq.test(t)
ggplot(ur, aes(x=city, fill=Question.5)) + geom_bar(position="dodge")
ggsave("Question.5.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 34.121, df = 2, p-value = 3.897e-08
```

6) Question 6

```
t <- table(ur$Question.6, ur$city)
chisq.test(t)
ggplot(ur, aes(x=city, fill=Question.6)) + geom_bar(position="dodge")
ggsave("Question.5.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 79.702, df = 6, p-value = 4.117e-15
```

7) Question 7

```
t <- table(ur$Question.7, ur$city)
chisq.test(t)
ggplot(ur, aes(x=city, fill=Question.7)) + geom_bar(position="dodge")
ggsave("Question.7.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 4.3863, df = 2, p-value = 0.1116
```

8) Question 8

```
t <- table(ur$Question.8, ur$city)
chisq.test(t)
ggplot(ur, aes(x=city, fill=Question.8)) + geom_bar(position="dodge")
ggsave("Question.8.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 0.38202, df = 2, p-value = 0.8261
```

9) Question 9

```
t <- table(ur$Question.9, ur$city)
chisq.test(t)
ggplot(ur, aes(x=city, fill=Question.9)) + geom_bar(position="dodge")
ggsave("Question.9.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 0.028752, df = 1, p-value = 0.8654
```

10) Question 10

```
t <- table(ur$Question.10, ur$city)
chisq.test(t)
ggplot(ur, aes(x=city, fill=Question.10)) + geom_bar(position="dodge")
ggsave("Question.10.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 8.7829, df = 2, p-value = 0.01238
```

11) Favorite place

```
t <- table(ur$Favourite.place, ur$city)
chisq.test(t)
ggplot(ur, aes(x=city, fill=Favourite.place)) + geom_bar(position="dodge")
ggsave("Favourite.place.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 31.94, df = 6, p-value = 1.675e-05
```

12) Disfavors

```
t <- table(ur$Disfavors, ur$city)
chisq.test(t)
ggplot(ur, aes(x=city, fill=Disfavors)) + geom_bar(position="dodge")
ggsave("Disfavors.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 22.793, df = 4, p-value = 0.0001393
```

COMPARISON BETWEEN LOCALS AND TOURISTS

1) Question 1

```
t <- table(ur$Question.1, ur$Question.1)
chisq.test(t)
ggplot(ur, aes(x=Question.1, fill=Question.1)) + geom_bar(position="dodge")
ggsave("Question.1.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 295.68, df = 1, p-value < 2.2e-16
```

2) Question 2

```
t <- table(ur$Question.2, ur$Question.1)
chisq.test(t)
ggplot(ur, aes(x=Question.1, fill=Question.2)) + geom_bar(position="dodge")
ggsave("Question.2.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 11.921, df = 2, p-value = 0.002579
```

3) Question 3

```
t <- table(ur$Question.3, ur$Question.1)
chisq.test(t)
ggplot(ur, aes(x=Question.1, fill=Question.3)) + geom_bar(position="dodge")
ggsave("Question.3.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 9.4344, df = 2, p-value = 0.00894
```

4) Question 4

```
t <- table(ur$Question.4, ur$Question.1)
chisq.test(t)
ggplot(ur, aes(x=Question.1, fill=Question.4)) + geom_bar(position="dodge")
ggsave("Question.4.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 9.1284, df = 1, p-value = 0.002517
```

5) Question 5

```
t <- table(ur$Question.5, ur$Question.1)r
chisq.test(t)
```

```
ggplot(ur, aes(x=Question.1, fill=Question.5)) + geom_bar(position="dodge")
ggsave("Question.5.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 9.1284, df = 1, p-value = 0.002517
```

6) Question 6

```
t <- table(ur$Question.6, ur$Question.1)
chisq.test(t)
ggplot(ur, aes(x=Question.1, fill=Question.6)) + geom_bar(position="dodge")
ggsave("Question.6.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 164.86, df = 6, p-value < 2.2e-16
```

7) Question 7

```
t <- table(ur$Question.7, ur$Question.1)
chisq.test(t)
ggplot(ur, aes(x=Question.1, fill=Question.7)) + geom_bar(position="dodge")
ggsave("Question.7.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 6.3266, df = 2, p-value = 0.04229
```

8) Question 8

```
t <- table(ur$Question.8, ur$Question.1)
chisq.test(t)
ggplot(ur, aes(x=Question.1, fill=Question.8)) + geom_bar(position="dodge")
ggsave("Question.8.png", dpi=300, height = 10, width = 20, units = "cm")
X-squared = 10.785, df = 2, p-value = 0.00455
```

9) Question 9

```
t <- table(ur$Question.9, ur$Question.1)
chisq.test(t)
ggplot(ur, aes(x=Question.1, fill=Question.9)) + geom_bar(position="dodge")
ggsave("Question.9.png", dpi=300, height = 10, width = 20, units = "cm")
```

X-squared = 0.73515, df = 1, p-value = 0.3912

10) Question 10

```
t <- table(ur$Question.10, ur$Question.1)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=Question.1, fill=Question.10)) + geom_bar(position="dodge")
```

```
ggsave("Question.10.png", dpi=300, height = 10, width = 20, units = "cm")
```

X-squared = 2.7898, df = 2, p-value = 0.2479

11) Favorite place

```
t <- table(ur$Favourite.place, ur$Question.1)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=Question.1, fill=Favourite.place)) + geom_bar(position="dodge")
```

```
ggsave("Favourite.place.png", dpi=300, height = 10, width = 20, units = "cm")
```

X-squared = 11.817, df = 6, p-value = 0.06618

12) Disfavors

```
t <- table(ur$Disfavors, ur$Question.1)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=Question.1, fill=Disfavors)) + geom_bar(position="dodge")
```

```
ggsave("Disfavors.png", dpi=300, height = 10, width = 20, units = "cm")
```

X-squared = 53.541, df = 4, p-value = 6.567e-11

SUMMARY OF THE PEOPLE

1) Question 1

```
t <- table(ur$Question.1)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=Question.1, fill=Question.1)) + geom_bar(position="dodge")
```

X-squared = 23.52, df = 1, p-value = 1.236e-06

2) Question 2

```
t <- table(ur$Question.2)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=Question.2,fill=Question.2)) + geom_bar(position="dodge")
```

X-squared = 78, df = 2, p-value < 2.2e-16

3) Question 3

```
t <- table(ur$Question.3)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=Question.3,fill=Question.3)) + geom_bar(position="dodge")
```

X-squared = 108.5, df = 2, p-value < 2.2e-16

4) Question 4

```
t <- table(ur$Question.4)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=Question.4,fill=Question.4)) + geom_bar(position="dodge")
```

X-squared = 125.45, df = 1, p-value < 2.2e-16

5) Question 5

```
t <- table(ur$Question.5)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=Question.5,fill=Question.5)) + geom_bar(position="dodge")
```

X-squared = 4.34, df = 2, p-value = 0.1142

6) Question 6

```
t <- table(ur$Question.6)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=Question.6,fill=Question.6)) + geom_bar(position="dodge")
```

X-squared = 286.13, df = 6, p-value < 2.2e-16

7) Question 7

```
t <- table(ur$Question.7)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=Question.7,fill=Question.7)) + geom_bar(position="dodge")
```

X-squared = 156.26, df = 2, p-value < 2.2e-16

8) Question 8

```
t <- table(ur$Question.8)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=Question.8,fill=Question.8)) + geom_bar(position="dodge")
```

X-squared = 307.52, df = 2, p-value < 2.2e-16

9) Question 9

```
t <- table(ur$Question.9)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=Question.9,fill=Question.9)) + geom_bar(position="dodge")
```

X-squared = 17.28, df = 1, p-value = 3.226e-05

10) Question 10

```
t <- table(ur$Question.10)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=Question.10,fill=Question.10)) + geom_bar(position="dodge")
```

X-squared = 272.54, df = 2, p-value < 2.2e-16

11) Favorite place

```
t <- table(ur$Favourite.place)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=Favourite.place,fill=Favourite.place)) + geom_bar(position="dodge")
```

X-squared = 480.03, df = 6, p-value < 2.2e-16

12) Disfavors

```
t <- table(ur$Disfavors)
```

```
chisq.test(t)
```

```
ggplot(ur, aes(x=Disfavors,fill=Disfavors)) + geom_bar(position="dodge")
```

```
X-squared = 68.167, df = 4, p-value = 5.532e-14
```