

Ανοικτό Πανεπιστήμιο Κύπρου

Σχολή: Enterprise Risk Management

Μεταπτυχιακό Πρόγραμμα Σπουδών

Διοίκηση, Τεχνολογία και Ποιότητα

Μεταπτυχιακή Διατριβή



Investigating the impact of major environmental works on tourists in major destinations in Cyprus. The cases of the Wastewater Treatment Station at Kato Polemidia area, and the water management and restoration activities at Oroklini Lake

Γιάννης Κωνσταντίνου

Επιβλέπων Καθηγητής: Αγγελική Μενεγάκη

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Η παρούσα μεταπτυχιακή διατριβή υποβλήθηκε προς μερική εκπλήρωση των απαιτήσεων για απόκτηση μεταπτυχιακού τίτλου σπουδών στο κλάδο της Διοίκησης, Τεχνολογίας και Ποιότητας από τη Σχολή Enterprise Risk Management του Ανοικτού Πανεπιστημίου Κύπρου.

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Περίληψη

Ο τουρισμός είναι ένας συνδυασμός αγαθών, υπηρεσιών και δραστηριοτήτων και είναι ένας από τους ταχύτερα αναπτυσσόμενους και πιο δυναμικούς τομείς της οικονομίας παγκοσμίως. Ο τουρισμός είναι μια από τις κορυφαίες βιομηχανίες στον κόσμο και ταυτόχρονα αποτελεί σημαντική πηγή απασχόλησης και παράγοντα ανάπτυξης στις διάφορες μορφές του. Για την κυπριακή οικονομία, ο τουρισμός αποτελεί βασικό τομέα με σημαντική συμβολή στο ακαθάριστο εγχώριο προϊόν της χώρας και στον δείκτη απασχόλησης. Ωστόσο, οι τουριστικές δραστηριότητες επηρεάζουν τα προς το ζην των κατοίκων μιας κοινότητας όταν γίνεται τουριστικός προορισμός. Ομοίως, η ανάπτυξη περιβαλλοντικών έργων επηρεάζει τον τουρισμό είτε θετικά είτε αρνητικά.

Ο στόχος αυτής της εργασίας είναι να διερευνήσει σημαντικά περιβαλλοντικά έργα που θα μπορούσαν να επηρεάσουν την τουριστική βιομηχανία και σε ποιο βαθμό ο αντίκτυπος αυτός είναι θετικός ή αρνητικός. Με βάση την ανάλυση δεδομένων, η μελέτη αποσαφήνισε το επίπεδο των επιπτώσεων και πρότεινε μεθόδους βιώσιμης συνεργασίας μεταξύ των απαιτούμενων περιβαλλοντικών έργων και της τουριστικής βιομηχανίας. Αυτή η μελέτη επικεντρώθηκε σε δύο περιβαλλοντικά έργα. Το ένα αφορά την περιοχή της Λεμεσού και σχετίζεται με το εργοστάσιο επεξεργασίας λυμάτων στην περιοχή Κάτω Πολεμίδα και το άλλο αφορά τις δραστηριότητες διαχείρισης και αποκατάστασης νερού στη λίμνη Ορόκλινη.

Η έρευνα έδειξε επίσης ότι οι τρεις κύριες αρνητικές επιπτώσεις που έχει ο τουρισμός στο περιβάλλον είναι η καταστροφή του, τα σκουπίδια και τα απόβλητα στις παραλίες. Όμως, οι τρεις θετικές επιπτώσεις που μπορούν να έχουν περιβαλλοντικά έργα στον τουρισμό είναι η βελτίωση της ποιότητας του τουρισμού, η προσέλκυση εναλλακτικού τουρισμού και η ανάδειξη φυσικών τοπίων. Τέλος, οι περισσότεροι συμμετέχοντες δήλωσαν ότι τα δύο ειδικά περιβαλλοντικά έργα αυξάνουν ελαφρώς την περιβαλλοντική ρύπανση.

Τα ερευνητικά ερωτήματα έδειξαν ότι υπάρχει διαφορά μεταξύ των συμμετεχόντων που γνωρίζουν τα δύο υπό εξέταση περιβαλλοντικά έργα ως προς το εάν η περιβαλλοντική βιομηχανία ενισχύει τον τουρισμό και ότι η τουριστική βιομηχανία σέβεται το περιβάλλον, ενώ υπάρχει μια διαφορά μεταξύ

των συμμετεχόντων που γνωρίζουν για το έργο της μονάδα επεξεργασίας λυμάτων στα Κάτω Πολεμίδα ως προς το εάν η τουριστική βιομηχανία σέβεται το περιβάλλον.

Summary

Tourism is a combination of goods, services and activities and is one of the fastest growing and most dynamic sectors of the economy worldwide. Tourism is one of the leading industries in the world and the same time is an important source of employment and growth factor in its various forms. For the Cypriot economy, tourism is a key sector with a major contribution to the gross domestic product of the country and the employment index. However, tourism activities affect the livelihood of residents of a community when it becomes a tourist destination. Similarly, the development of environmental projects affects tourism either positively or negatively.

The aim of this work is to investigate important environmental projects that could affect the tourism industry and to what extent this impact is positive or negative. Based on the data analysis, the study clarified the level of impact and proposed methods of sustainable cooperation between the required environmental projects and the tourism industry. This study focused on two environmental projects. One concerns the Limassol area and is related to the wastewater treatment plant at Kato Polemidia area and the other concerns the water management and rehabilitation activities at Oroklini Lake.

The research also showed that the three main negative effects that tourism has on the environment are its destruction, garbage and waste on the beaches. But the three positive effects that environmental projects can have on tourism are improving the quality of tourism, attracting alternative tourism and highlighting natural landscapes. Finally, most participants stated that the two specific environmental projects slightly increase environmental pollution.

The research questions showed that there is a difference between the participants who know the two environmental projects under consideration as to whether the environmental industry enhances tourism and that the tourism industry respects the environment, while there is a difference between the participants who know about its work wastewater treatment plant at Kato Polemidia as to whether the tourism industry respects the environment.

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Introduction

Tourism is a combination of goods, services and activities and is one of the fastest growing and most dynamic sectors of the economy worldwide. Tourism is one of the leading industries in the world and the same time is an important source of employment and growth factor in its various forms. For the Cypriot economy, tourism is a key sector with a major contribution to the gross domestic product of the country and the employment index. However, tourism activities affect the livelihood of residents of a community when it becomes a tourist destination.

The production of tourism services, as well as the production of other goods, inevitably involves the use of environmental resources. Elements mainly of the natural, but also of the built environment, are an input to the tourism production process. Corresponding to this process, there are significant discharges to the environment. These discharges either favor or adversely affect the environment. The environmental changes caused by tourism are identified locally as natural changes, such as impacts on land and water, but also globally, such as contributing to climate change.

Tourism provides important economic benefits to the societies (Yu et al., 2011) and is a source of growth for the economy of a nation (Kalaiya & Kumar, 2015). According to the 2015 report of the World Travel and Tourism Council, the tourism and travel industry's economic contributions accounted for approximately US\$ 2.4 trillion to the world's GDP with around 105 million job opportunities generated (WTTC, 2015). Tourism has experienced tremendous growth in recent decades, as tourists are constantly looking for new ways to relax and spend time, such as destinations that offers the concept of natural tourism (Lin & Yeh, 2013). Governments, as well the tourism industry and non-governmental organizations (NGOs) understood the importance of tourism as a basic factor in the development of the economy, as well as the rising of the income (Egbali et al., 2011; Zoto et al., 2013).

Environmental works enhance the environment and benefit human welfare. However, sometimes they are also perceived as contributing to visual disturbance or creating other negative effects. Hence, the

eventual trade off with a net benefit or loss intrigues policy makers in environment and energy authorities.

The global climate has now been shown to have changed since the pre-industrial period and the predictions show that during the 21st century this change will continue. According to the Intergovernmental Panel on Climate Change (IPCC), rising ambient temperatures are unquestionable and global average temperatures have risen around 0.89° C between 1901-2012 and 0.72° C during 1951. - 2012. The IPCC has concluded, among other things, that much of the global surface temperature increase has occurred since the mid-20th century and is almost likely (with a likelihood of more than 90 percent) to be the product of ever-increasing human activity, and they are releasing more and more greenhouse gases into the atmosphere.

Tourism is one of the economy's principal industries. Climate is a vital tool for tourism, as it is well recognized that an area's environmental factors play a crucial role in selecting a destination. Consequently, a destination is highly vulnerable to the impacts of climate change and global warming, as any change in the climate conditions of the region will affect its demand for tourism. At the same time, it is obvious that due to the greenhouse gas emissions generated by travel and accommodation, tourism could not have an impact on the environment and climate. Tourism and climate change therefore have an intimate relationship, as the former leads to the greenhouse effect but is also affected crucially by the climate change.

Efforts are being made to reduce greenhouse gas emissions and address the impacts of climate change on tourism. Action taken to reduce greenhouse gas pollution is called mitigation. But, typically, these steps are long-term. Therefore, global temperatures are likely to rise further in the period before their target is achieved, causing damage, such as increased rainfall, increasing sea levels and more. Which could affect the tourism industry. Accordingly, steps should be taken to help adjust those areas directly affected. Those are the steps of adaptation.

Climate change is now certainly one of the biggest issues to be solved by the scientific community and by society in general. Indeed, climate change is the most important concern of the 21st century

for many. It has brought implications and changes in different aspects of everyday life. As predicted, the phenomenon called climate change does not leave the tourism sector unaffected, as it has a major impact in the evolution of the management of the tourist sector, the way tourists select a destination, and how the touristic destinations are ready to adapt, and in general in the decision-making process (Becken et al., 2007).

Climate alone is well known to be a crucial factor for tourism, as it decides the suitability of locations for a wide variety of tourism activities and defines demand seasonality. In general, adequate climatic conditions are the key to all forms of tourism from traditional sea-beach-sun to alternative forms of tourism such as eco-tourism, adventure tourism and sport. Additionally, climate is the main draw for visitors in certain destinations (UNWTO-UNEP-WMO, 2008).

Climate change impacts on the tourism industry can be categorized in two ways. The first method of categorizing them relates to the destination they affect and can be divided into the impacts on winter destinations, coastal destination, and sites of cultural heritage or natural character.

The second impact categorization is focused on how climate change will affect the tourism sector based on a series of impacts and effects. Thus we have: a) Instant climatic impacts which they affect the tourism industry directly, the seasonality and therefore the choice of destination, b) Indirect Environmental Impacts which are causing a wide variety of climate conditions and have significant consequences for tourism at destination level. Those are indirect effects on the climate. We show how the tourism's natural and cultural resources, which are relevant for some areas, will be affected, c) Indirect Social Effects on Tourism which primarily concern income loss with climate change, which can adversely affect the growth of tourism, and d) Impact of climate change halting practices on tourist mobility (UNWTO-UNEP-WMO, 2008).

In this context, the importance of the present work lies in the fact that the presentation of how major environmental projects can affect the very important sector of tourism, making the results of this research a tool on which very important results can be drawn. These results can be used by stakeholders for the benefit of the environment as well as tourism and the economy.

Chapter 1

Theoretical Framework

The first chapter attempts to describe the relationship between tourism and society, but also the development of the economy of a region, and of a country at large. At the same time are presented the projects that are the core of this work and which in their implementation seem to affect tourism.

1.1 Literature Review

Tourism contributes essential on the financial advantages of the societies (Yu et al., 2011) and is a source of development for the economy of a country (Kalaiya & Kumar, 2015). According to the 2015 World Travel and Tourism Council study, the travel and tourism industry's financial contributions to the world's GDP accounted for about \$2.4 trillion, creating around 105 million employment (WTTC, 2015). Tourism has witnessed tremendous development in recent decades, and tourists are increasingly looking for fresh locations for relaxation, such as locations for natural tourism (Lin & Yeh, 2013). Tourism, however, can also have adverse effects on the environment in the long term, such as pollution, degradation of locations, damage to biodiversity, etc., as well as effects on the resident groups. Overall, it can harm tourist destinations' future financial growth (Niñerola et al., 2019).

Since today we have reached a point where major touristic destinations in Cyprus are affected negatively by mass tourism, concerning the environment, there is a need for major environmental works that will prevent further ecological destruction. On the other hand it is important to check also how these works will affect tourists.

1.1.1 Environmental Constructs

The environment has emerged as having the greatest public concern, followed by socio-cultural and economic problems in the tourism sector. The environment has become one of the main pillars of sustainable tourism growth based on knowledge, especially the tourism destination (Sedmak & Mihalic, 2008; Fons et al., 2011). The term "environmental constructs" has been described as related components, including natural or manmade components and broader social and cultural environments

(Mihalic, 2000). Researchers (Goulding et al., 2014; Yu, 2014) revealed the value of environmental components, including the natural resources and cultural attractions of a tourist destination, in creating a specific tourism product to attract tourists. In addition, natural resources proved to be the most important factor of authenticity in improving the main competitiveness of a tourist destination (Sedmak & Mihalic, 2008). In this context, as the number of visitors grows, preserving the environment as much as possible is important in order to guarantee the sustainability of tourism attractions. Reimer and Walter (2013) findings postulated that preservation efforts would concentrate on manmade components as well as on natural environmental components, both of which are part of the tourism product that draws tourists and also needs to satisfy the community by increasing the quality of life. Therefore, multi-environmental buildings provide environmental protection, tourism facilities, capacity carrying, and quality of the environment.

1.1.2 Environmental Impacts of Construction Activities

Throughout a wide spectrum of its operations during off-site, on-site and operational activities, the building industry has a substantial irreversible environmental effect that alters ecological integrity (Uher, 1999). Buildings are very large contributors to environmental degradation, according to Levin (1997). To make the built environment and construction activities more sustainable, it is clear that actions are required (Scheuer et al., 2003). Therefore, a study of the environmental effects of construction activities may need to look at the "cradle to grave" point of view (Ofori et al., 2000).

One of the main exploiters of both renewable and non-renewable natural resources is the building industry (Uher, 1999). It relies heavily on the natural environment for the supply of raw materials for the construction process, such as timber, sand and aggregates. Building construction consumes 40 per cent of the world 's raw stones, gravel and sand, and 25 per cent of virgin wood per year, according to the World Watch Institute (2003). It also absorbs 40 percent and 16 percent of energy and water annually.

Pollutants have also been released into the biosphere, causing significant pollution of land and water, mostly due to negligence on site , resulting in chemical spills that are then washed into underground

aquatic systems and reservoirs (Kein et al., 1999). Around one third of the world 's land is polluted, according to Langford et al. (1999), and contaminants are degrading the nature of the climate, interfering with the capacity of the environment to provide a naturally healthy ecosystem.

The processing, transportation and use of materials results in a large amount of waste (Kein et al., 1999). Most waste from building is needless (Sternner, 2002). He added that many materials used for construction and demolition have a high potential for recycling and reuse. Screening, inspection and handling of building waste for recycling, however, are time-consuming activities and the lack of environmental knowledge among building professionals can create significant barriers to the usefulness of recycling (Langston & Ding, 1997). The construction industry's depletion of natural resources is a matter of considerable controversy as much of the recyclable content from building sites ends up in landfill sites. Sternner (2002) claimed that during the planning and design phases, implementing a waste management strategy will minimize on-site waste by 15 percent and achieve cost savings of up to 50 percent on waste handling.

According to Chen et al. (2000), seven major categories can be categorized into sources of emissions and hazards from construction activities: dust, toxic gases, noise, solid and liquid waste, dropped objects, movements of the earth, and others. Chen et al. (2005) considered construction impacts in eight categories: pollution of soil and soil, pollution of underground water , waste from building and demolition, noise and vibration, dust, toxic contaminants and odors, impacts on ecosystems and natural features and impacts on archaeology. On the other hand, Cole (2000) reported that the construction process's environmental impacts include resource uses, ecological loadings, and human health problems. Under the categories of ecology, landscape, traffic, water , electricity, timber use, noise , dust, sewage, and health and safety risks, March (1992) observed the environmental impacts of the construction industry. Shen and Tam (2002) classified the environmental impacts of building as the exploitation of environmental resources such as fossil fuels and minerals; the expansion of the use of generic resources such as soil , water , air and energy; the production of waste requiring the use of soil for disposal; and the degradation of the living environment by noise, odors, dust, vibrations,

chemicals and particulate matter. Typical negative impacts of construction activities, according to Cardoso (2005), include waste development, pollution of dirt, dust, soil and water and damage to public drainage systems, plant degradation, visual effects, noise, increase in traffic and lack of parking space and damage to public space.

1.1.3 Environmental Conservation

The term "conservation" is characterized as the management of environmental resources (e.g., air, water, soil, mineral resources, and living species) in order to achieve the highest sustainable quality of life (Jafari, 2000). Thereafter, the emergence of "ecotourism" has indicated a close connection with environmental conservation (Zhang & Lei, 2012). Ecotourism has included environmental conservation practices, in particular for ecological sustainability. Apparently, the implementation of conservation activities depends heavily on resident attitudes and engagement (Mbaiwa, 2008) due to the fact that, without their support and cooperation, tourism is their long-term homeland destination, environmental conservation practices will mostly fail (Sekhar, 2003). Researchers (Candrea, 2013; Reimer & Walter, 2013) noted that environmental protection and restoration greatly assures the income security of local communities. Apparently, the success and failure of environmental protection is heavily dependent upon resident attitudes (Ite, 1996; Weladji et al., 2003), especially in tourism (Taylor, 2000; Mbaiwa, 2008). Since tourism projects are developed and operated over a long period of time, the lack of community cooperation or support for environmental protection decreases the degree of success in sustaining the tourism destination (Sekhar 2003). In this way, Reimer and Walter (2013) suggested that tourism ecosystems should be strategically conserved in order to minimize the adverse effects of overcrowding and increase the viability of the tourism destination (Candrea, 2013).

1.1.4 Tourism Infrastructure

Tourism infrastructure is characterized as a physical element created or constructed to accommodate visitors and further divided into two main groups: soft infrastructure (e.g., services) and hard infrastructure (e.g., transport, information and access facilities) (Inskeep, 1991; Wilde & Cox, 2008). Past

researchers (Hankinson, 2004; Aref & Gill, 2009) developed transport infrastructure as key tools for enhancing tourism destination competitiveness. Tourism infrastructure is vital to a tourism destination, particularly for the tourism destination, as it is the basic facilities and infrastructure for supporting tourism activities and enabling tourists to enter the tourism destination. Researchers (Kaul, 1985; Wilde & Cox, 2008; Aref & Gill, 2009) postulated that transportation infrastructure is important for a tourist destination's success or failure. The different types of transport infrastructure are recognized as the essential infrastructure for connecting from air, water, and land from one point to the next. The availability of a good transport network (Prideaux, 2000) is required to resolve the physical barrier to reaching a tourist destination, particularly if the tourist destination is geographically scattered and the transportation costs that.

1.1.5 Carrying Capacity

The World Tourism Organization (WTO) (1994) defines carriage capacity as the maximum number of people who can visit a tourist destination at the same time and without sacrificing the physical, economic, socio-cultural environment and the quality of the tourist satisfaction. Collectively, the number of visitors visiting a tourist destination will lead to the loss of one of the natural resources, and visitors will not experience the same natural beauty and amenities as before in the future. From this, the carrying capacity of a particular destination can be seen to have a long-term impact on a tourist destination's viability and on its competitiveness. Nonetheless, several authors have concluded that there is a positive relationship between capacity transportation and sustainable tourism destination (Butler, 1997; Liu, 2003), and issues begin to arise when capacity transportation activities are not properly controlled (Swarbrooke, 2002; Manuel & Miguel, 2008). This rising the Tourism destination's profitability and competitiveness.

1.1.6 Quality of Environment

Environmental quality has greatly affected the attractiveness of a tourism destination, as visitors who visit it appreciate the beauty of natural features and beautiful scenery (Kulcsar, 2009). Environmental

quality may apply to the quality of the natural and beautiful scenery of the destination, clean water, fresh air and the diversity of species (Mihalic, 2000). Moreover, a successful preserve environment will provide the tourists with a better quality climate (Zhang & Lei, 2012; Melo & Farias, 2014). In reality, environmental quality also greatly influences the local people's quality of life (Hunziker et al., 2008). A number of researchers have reiterated the importance of environmental quality as a hallmark of a good tourism destination, such as the local landscape and the natural scenery (Sedmak & Mihalic, 2008; Mak et al., 2009; Fons et al., 2011; Zhang & Lei, 2012). Achieving quality requires both tourists and local residents to take an active part in enhancing the atmosphere and not further degrading the community. There are various methods for change that can be used, such as actively promoting local community environmental management and maintaining good ecological features, and involving visitors in environmental conservation when visiting a destination.

1.1.7 Community Support

Spencer and Nsiah (2013) identified community support as an integral part of the tourism product and hospitality to the extent that individual community members may affect visitor satisfaction, spending levels, and willingness to visit again and recommend the destinations to others. The subdimensions of community support are described as community participation as well as community involvement. Community participation may also contribute to the Community's active involvement in productive tourism production (Tosun 2006; Miranda 2007). Collectively, both community engagement and participation play an important role in promoting regional tourism growth (Jurowski & Gursoy, 2004). Additionally, community support for visitor services (Yoon et al., 2000; Fallon & Kriwoken, 2003) and civic involvement for better access facilities (Jurowski, 1994; Yoon, 1998) also make a major contribution to the growth of the tourism industry. A number of researchers found that community support is important in ensuring both the tourism industry's sustainable development and economic development (Sharma & Dyer, 2009; Scales, 2014).

1.1.8 Destination Competitiveness

Tourism destination profitability refers to the destination's ability to deliver safety and sustainability (Cavender-Bares et al., 2013). Hence, sustainability at the destination is accomplished by rising its market share and financial returns (Vengesai, 2003). Competitiveness in tourism destinations has been explored in the past from different viewpoints, such as an environmental perspective (Mihalic, 2000), an economic perspective (Buhalis, 2000), and a social cultural perspective (Jennifer et al., 2010). Nonetheless, most of the discussions centered on environmental perspectives (Ritchie & Crouch, 1993; Hassan, 2000; Dwyer et al., 2001; Gomezelj & Mihalic, 2008), in which the environmental dimension was taken as one of the four determinants of competitiveness for tourism other than comparative advantages, market structure and demand factors (Hocquette & Chatellier, 2011; Battaglini et al., 2014). Previous studies stressed the importance of environmental components for the sustainability of the tourism industry (Chandralal, 2010; Miller, 2001), the introduction of a Destination Competitiveness Strategy (Kim, 2012), the importance of environmental components (such as environmental protection, environmental education, cultural attractions) in the growth of destinations.

Among the literature documenting the contribution of core tourism resources and attractors to destination competitiveness (Ritchie & Crouch, 1993; Buhalis, 2000; Hassan, 2000; Wilde & Cox, 2008), price competitiveness (Dwyer et al., 2000; Kim, 2012), and quality management (Go & Govers, 2000), scientist Mihalic (2000) focussed on a different aspect, environmental management. Together, Gomezelj and Mihalic (2008) suggested that the essence of the ecosystem should be preserved while also safeguarding the main resources (Scales, 2014b; Battaglini et al., 2014). The models developed in this context, collectively, underline that successful and efficient strategy improves destination efficiency and promotes competitiveness. In short, rivalry at destinations can be increased by various approaches, including management of destinations, sustainable development and improved quality in customer experience (Buhalis, 2000; Ritchie & Crouch, 2000; Dwyer & Kim, 2003).

1.1.9 The Wastewater Treatment Station at Kato Polemidia area

What happens in a sewage treatment plant is basically the same as being in a river or at sea. The role of such an installation is to accelerate the natural processes by which the waters purify themselves.

In these natural processes of decomposition, bacteria and other microorganisms recognize various contaminants as a source of food. While microorganisms bind their food, they produce new bacterial cells, carbon dioxide and other products. As the bacteria degrade they also consume the oxygen necessary for all their metabolic functions.

Waste water comes from the human activities of a city or village from homes or tourist complexes, hotels or even industries. Sewage contains human excrement, kitchen cleaning liquids, food decomposing debris, chemicals, etc. They can also be called dirty water because the waste is for the most part (more than 99.9%) by weight of water. The rest are substances dissolved or suspended in water. Approximately 80% of water consumption from urban homes or hotels accounts for wastewater. The longer they remain unprocessed (without ventilation) the smellier they are.

Because dissolved oxygen is a key element in an organism's life, it is very important to measure how much oxygen the bacteria will use to decompose a waste unit. This unit is called the analysis of the biochemical oxygen demand and is briefly written BOD. The greater the BOD of waste, the greater the amount of oxygen required by the bacteria to degrade it. It is important to mention about the new station that it will put an end to the contamination caused by the waste from neighboring industries (there is an open tank where liquid waste is discharged), since it will also treat the industrial waste. Furthermore, the station will be closed type and will operate with a membrane system (MBR), so there will be no open tanks and no fumes or odors. Also the new plant will receive waste water from a large area of western Limassol which is currently either dumped into the dump Vati or dumped uncontrollably or dumped into the septic tanks and absorbent pits with all its negative consequence, thus resolving a large problem that oscillates the area.

1.1.10 The water management and restoration activities at Oroklini Lake

This pioneering initiative, co-funded by the European Union (LIFE+), began in January 2012 to restore and preserve Oroklini Lake. The lake is an important wetland because it is a Special Protection

Area (SPA) EU Birds Directive (EBD) and a Community Importance Site (SCI) EU Habitats Directive. The beneficiaries of the 3-year project were the Game Fund as the key beneficiary, BirdLife Cyprus as the coordinator, the Environment Department, the Forest Department and the Voroklini Community Council.

The LIFE Oroklini project (LIFE10NATCY716) consisted of both conservation and awareness-raising events that tackled the stresses that placed this significant wetland at risk. Protection measures included lake fencing to avoid damage from motor vehicles and motorcycles accessing the lake during dry seasons, removal of invasive alien plant species, planting native shrubs and trees, water control and protection of area where a flea market used to run illegally. However, the environment is not the only one to have benefited from this program, as other communications activities were also planned during the implementation of the LIFE Oroklini project. The public awareness activities for the importance of the lake included the installation of site notice boards, the construction of a visitor information point with a nature watching cover, a photo contest to create a photo album, the annual 'Clean Oroklini Day' and information material for schools and the general public. The project thus played an important part in raising consciousness among the public about the wetland. Oroklini Lake has attracted a great many nature enthusiasts.

Oroklini Lake is a Natura 2000 site and is of particular importance to the two qualifying bird species Black-winged Stilt *Himantopus himantopus* (Oroklini Lake is the best breeding site for this species in Cyprus) and Spur-winged Plover *Vanellus spinosus* which nests there. It should be recalled that Cyprus maintains over 50 percent of the EU's Spur-winged Plover breeding population and Oroklini Lake is one of the top 5 breeding grounds for this species in Cyprus on a local scale. There were 190 bird species recorded at the site. The site is also listed as SCI according to the Habitats Directive for its halophytic marsh vegetation (92/43/EEC).

This program has yielded many benefits. A significant wetland has been restored, and maybe the model for future projects. We managed to raise public awareness in the region through the initiative, and the lake can now also be used to teach pupils about the environment. At the same time, the system

has helped control the water level at the dam. Furthermore, the participation of these five beneficiaries, sponsored by the project, played a major role in the project's success in preserving and sustaining Oroklini Lake, and in building community support for this important site.

Chapter 2

Methodology

This chapter introduces the research method, the research tool, the population and the sampling method, the research process, data analysis and ethical issues.

2.1 Aims, objectives, and research questions

Based on the literature review, the purpose and objectives of this thesis are presented below, as well as the research questions that arise.

2.1.1 Aims and objectives

The aim of this work is to investigate important environmental projects that could affect the tourism industry and to what extent this impact is positive or negative. Based on the data analysis, we expect to clarify the level of impact and propose methods of sustainable cooperation between the required environmental projects and the tourism industry. This study will focus on two environmental projects. One concerns the Limassol area and is related to the wastewater treatment plant at Kato Polemidia area and the other concerns the water management and rehabilitation activities at Oroklini Lake.

2.1.2 Research questions

Based on the above purpose and the objectives of this dissertation, the following research questions are highlighted. Is there a difference between the participants who know the two environmental projects under consideration as to whether the environmental industry respects tourism? Is there a difference between the participants who know the two environmental projects under consideration as to whether the tourism industry respects the environment? Is there a difference between the participants who know the two environmental projects under consideration regarding the interest in the problem of environmental impact in different tourist destinations in Cyprus?

2.1.3 The necessity and the importance of the research

The research considers to be important both for the tourism industry and the governments, since based on the results it could be defined in what level major environmental works affects tourists. Thus,

stakeholders, both from the governments and the tourism industry, could make use of the useful information, based on which they could design strategies that could have positive impact both on the environment, as well as on tourism.

2.2 Research method

To conduct proper research and obtain useful results, it is essential to choose the appropriate research method. In this context, the researcher can choose between qualitative or quantitative research methods. The qualitative methodology seeks to investigate a phenomenon in greater depth so that it can be understood in its entirety and concerning possible interactions that occur with its context. For this reason, with qualitative methodology, the researcher accurately penetrates the world of participants and retrieves details and information that could not be disclosed in any other way (Adams, 2014).

In contrast, the quantitative methodology is used when the researcher's purpose is to capture the general picture of a phenomenon and to investigate opinions and attitudes about it, without seeking a deeper penetration into the thoughts and experiences of the participants (Bryman, 2015). Although both approaches 'have advantages and disadvantages' it cannot be considered that one is superior to the other or that some of the two is not correct. Therefore, the main criterion for deciding which methodology is most suitable for research is its effectiveness in carrying out the objectives of each research (Gray, 2017). Therefore, since the aim of this study was to gather information on how important environmental projects could affect the tourism industry and to what extent this effect is positive or negative, the quantitative methodology was considered more appropriate. In particular, it was decided to conduct a survey, which is used when the researcher wishes to diagnose general trends, views, and attitudes of a population by selecting a sample from that population (Adams, 2014).

Overview research is a relatively easy way to conduct research, and it can be done quickly and without the need for specialized knowledge and experience from the researcher. The advantage of review research lies mainly in its ability to gather large amounts of data, which can be generalized, as random sampling has been performed, and the sample is representative (Bryan, 2015). Although review research does not usually allow a more in-depth approach to the phenomenon under investigation, for

this paper, it was the most appropriate method, which is why the researcher chose it. Due to time constraints, it was also decided that the research would be contemporary, ie, to be conducted at a given time only (Gray, 2017).

2.3 Research tool

An equally important decision for a researcher is to choose the research tool to use so that he or she can collect enough data to answer the research questions. The most common research tools used are questionnaire, observation and interview (Adams, 2014). The researcher ruled out the possibility of using the latter two tools for the following reasons: the collection of qualitative data, which, however, is quite time consuming and requires experience from the researcher, which was not in line with the present work (Bryan, 2015). Thus, it was preferred to use the questionnaire as the main tool of the present research.

The questionnaire is an easy-to-use research tool, which allows to collect research data quickly and easily, as well as information about the demographics of the participants (Gray, 2017). A questionnaire can include open or closed questions or a combination of them. The open-ended questions leave the choice to the respondent to give whatever answer he wants, resulting in information that probably would not have been included in the answer options. Closed-ended questions, on the other hand, give participants a more limited range of choices, but are easier to codify and analyze (Adams, 2014). For these reasons it was decided that the questionnaire be semi-structured with closed and open-ended questions.

To construct the questionnaire, databases were initially searched to see if there was a ready-made weighted questionnaire. However, such a questionnaire could not be identified. So it was decided that the questionnaire be made by the researcher based on the literature that had been identified on how environmental projects affect tourism. Of course, in formulating the questions care was taken to ensure that the questions included were simple, understandable and clear to encourage participants to answer. Care was also taken to ensure that there are no offensive, indiscreet and sensitive, which

often provoke negative reactions in respondents resulting in no response. Double-negative questions, which confuse respondents, were also avoided (Bryan, 2015).

The final questionnaire contained two parts. In the first part there were questions about the demographics of the respondents, ie, gender, age, education, monthly income. In the second part there were questions, which clarify the opinion of the respondents about the environmental projects and to what extent they affect tourism. The final questionnaire is attached to the Annex.

2.4 Sampling and sample

The population of this research was the inhabitants of the Limassol area. Convenient sampling was used to select the sample to participate in the study. This method is mainly used when it is difficult to locate the exact population and collect a sufficient sample by other methods. The disadvantage, however, is that it does not allow generalizations, since convenient sampling is not random. Also, its disadvantage is the fact that the sample may not be representative, as it may include people with specific characteristics of the general population. Therefore the sample may be biased. For this reason the results of research conducted with non-random sampling and convenient sampling should always be interpreted with caution (Adams, 2014). The sample size was 150. The sample was found on various social media pages, which refer to environmental projects and tourism in Cyprus.

2.5 Research process

Due to the coronavirus pandemic, it was not possible for the researcher to come into live communication with the participants. So, after constructing an electronic questionnaire through the google form, he contacted the participants by phone and explained to them the purpose of the research and that their participation is voluntary and then sent the questionnaire via email or social media.

When the electronic questionnaires were collected, the answers were coded and entered in the SPSS statistical program to analyze them statistically. Throughout the research process, the researcher made an effort to comply with the rules of ethics, as described below.

2.6 Data analysis

The data from the questionnaires are analyzed using the SPSS statistical package, which is a common data analysis program, and is considered to produce accurate results (Field, 2009). The purpose is to describe the participants' views and practice with measures of central tendency and volatility, as well as to test hypotheses and to examine inductively possible correlations and differences with parametric and non-parametric controls, depending on the type of variables and degree of satisfaction needed for each check (Field, 2009; Fink, 2009).

To draw conclusions and answer the research questions, descriptive analyzes were performed with central tendency measures and frequencies, as well as inductive analyzes with statistical criteria, such as Pearson, T-test, ANOVA. All the results from the data analysis are presented descriptively and in tables in the next chapter.

2.7 Issues of ethics

During the present research all the rules of ethical ethics were observed. In this context, the present research was based on the informed consent of the participants, who participated in the research after being informed about the purposes of the research and the possibility not to participate in the research, without any consequences. Participation was therefore voluntary, while the anonymity and confidentiality of the data was maintained (Gray, 2017).

At the same time, several strategies were used to counteract the usual threats of validity (Cohen et al., 2008; Creswell, 2011). Carefully construct the questionnaire so as to avoid frequent mistakes, such as double negation questions. Furthermore, pilot checking of questionnaires anonymity and confidentiality and also Informed Consent. Last but not least, accuracy and transparency in the description of the data by numerical measures, as well as sample results from the SPSS analysis.

2.8 Research limitations

The main limitations of the research were that the research sample was small and non-randomly selected and as a result the results could not be generalized. Also, because the researcher came into personal communication with the participants, the participants may have been led into some kind of

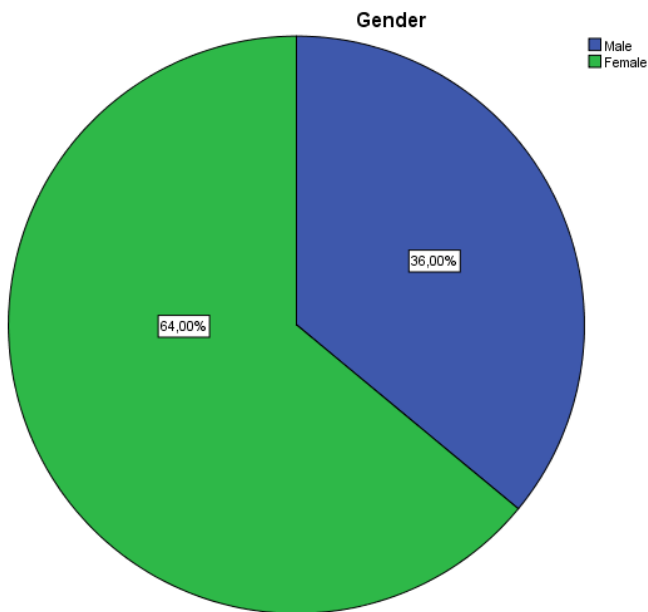
prejudice and try to somehow meet the researcher's expectations. Finally, some of the questions could be considered relatively sensitive, as they asked for personal information and therefore may not have been answered honestly. (Creswell. 2011)

Chapter 3

Results

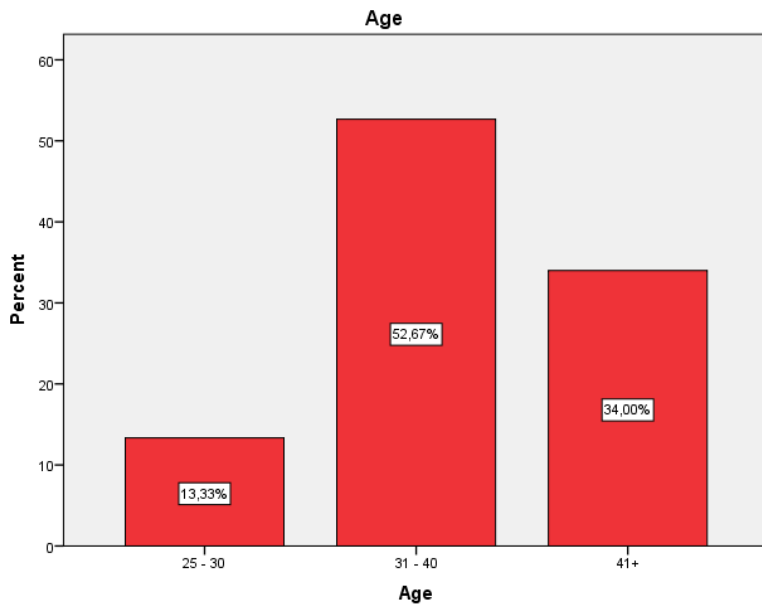
This chapter presents the results obtained through the analysis of participants' responses using the SPSS statistical package.

In this study took part 150 participants, most of whom were women (N = 96, 64%) and 36% of them are men.



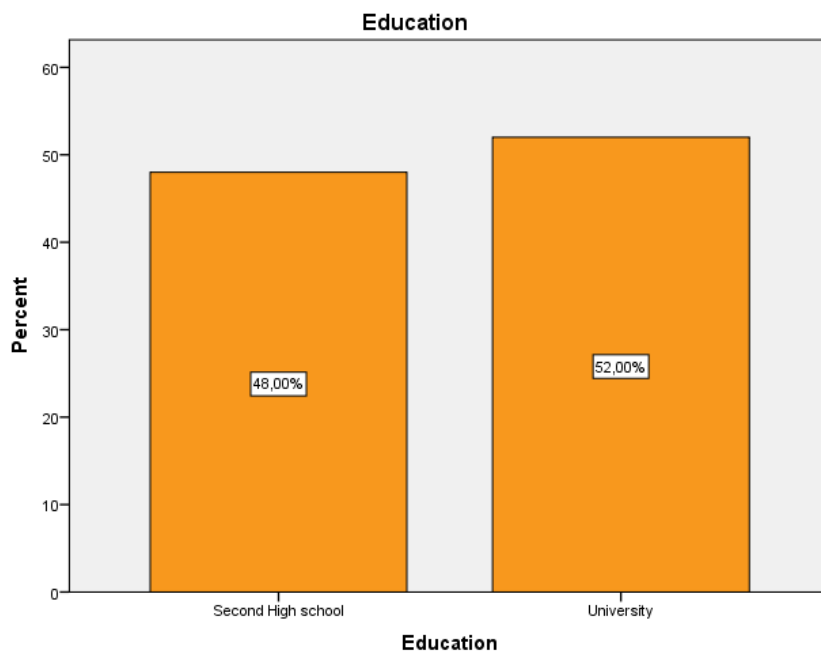
Graphic 1: Gender

Most participants belong to the age group from 31 - 40 years (N = 79, 52.67%). 34% of them are over 41 years old and 13.33% of them belong to the age group of 25-30 years.



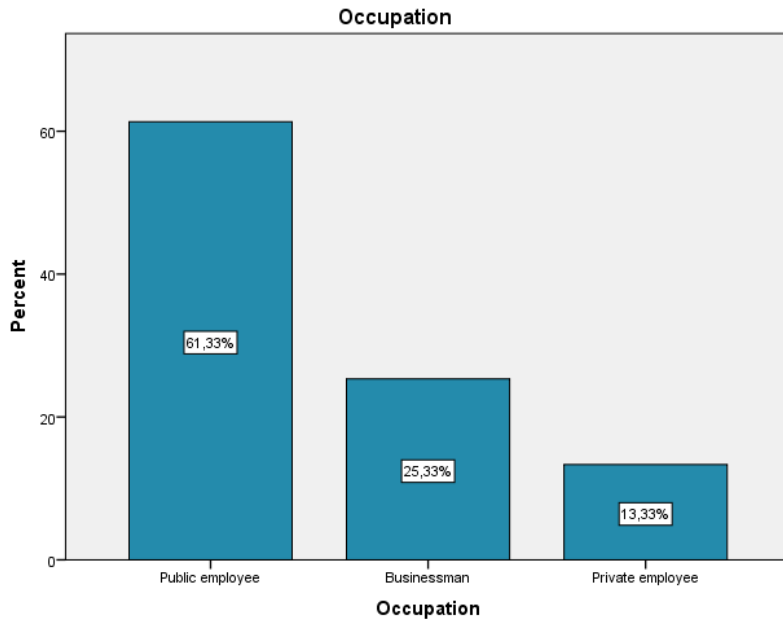
Graphic 2: Age

Graphic 3 shows that most participants are graduates of Higher Education (N = 78, 52%) and 48% of them are graduates of Secondary Education.



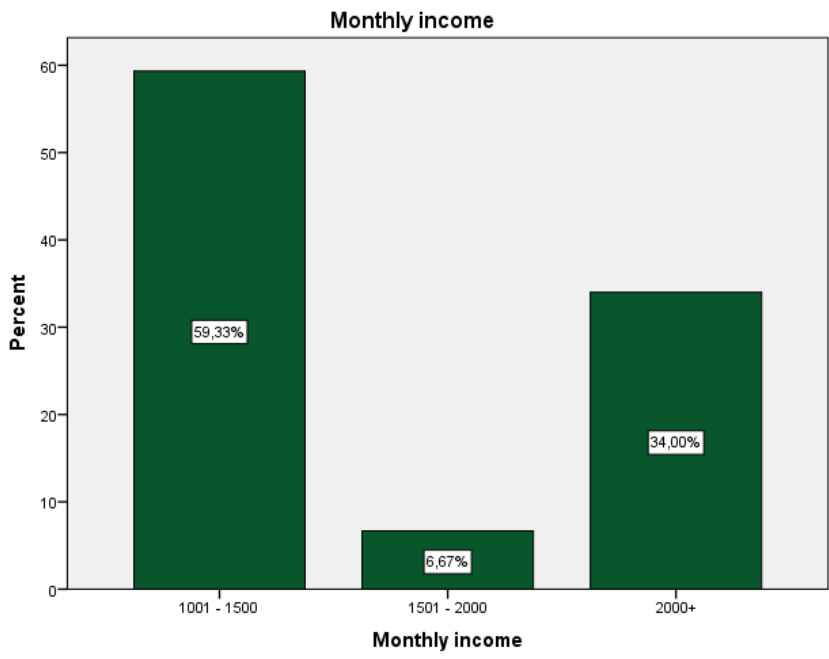
Graphic 3: Education

Graphic 4 shows that most participants are civil servants (N = 92, 61.33%). 25.33% of them are businessmen and 13.33% of them are private employees.



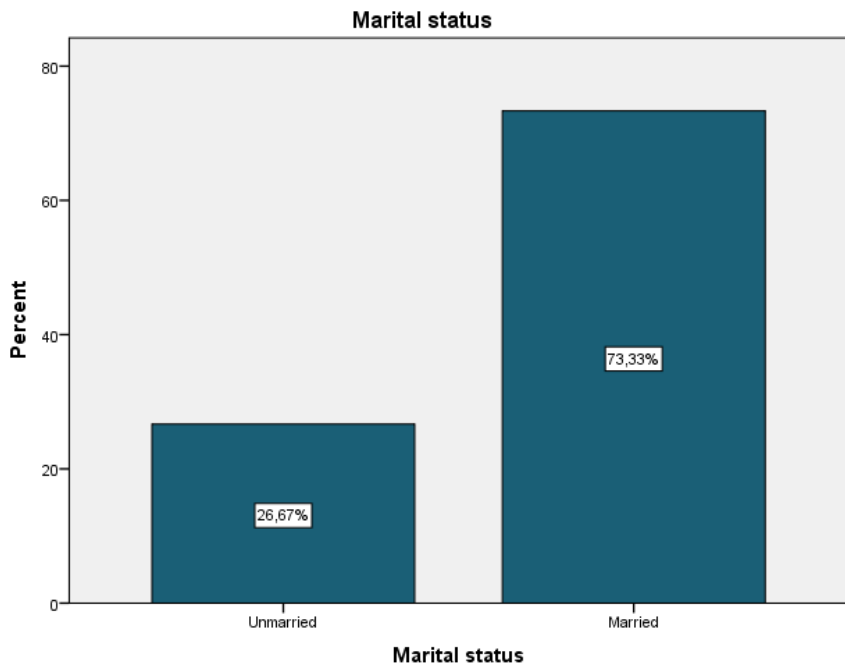
Graphic 4: Occupation

Graphic 5 shows that most participants have a monthly income of 1001 - 1500 euros (N = 89, 59.33%). 34% of the participants have a monthly income over 2000 euros and 6.67% of them have a monthly income from 1501 - 2000 euros.



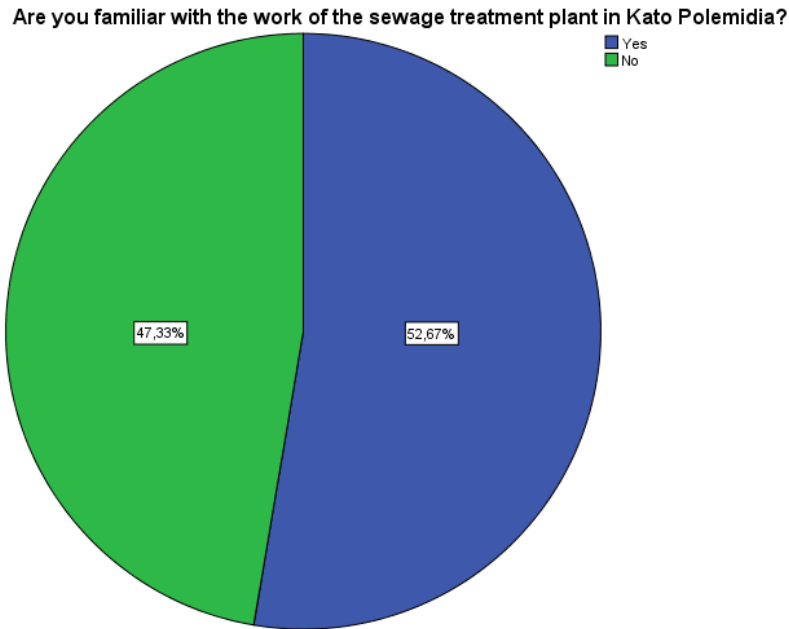
Graphic 5: Monthly income

Graphic 6 shows that most participants are married (N = 110, 73.33%) and 26.67% of them are unmarried.



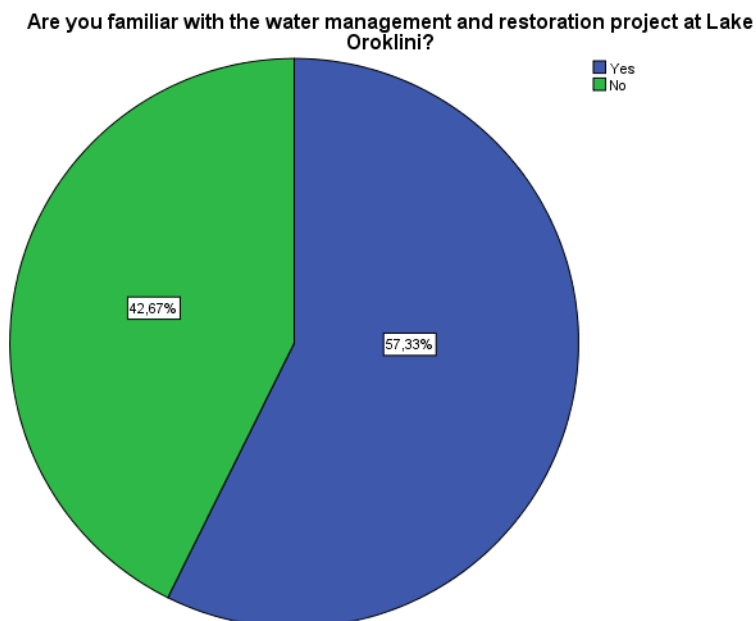
Graphic 6: Marital status

Graphic 7 shows that most participants stated that they know the operation of the wastewater treatment plant at Kato Polemidia (N = 79, 52.67%).



Graphic 7: Knowledge of the work of the wastewater treatment plant at Kato Polemidia

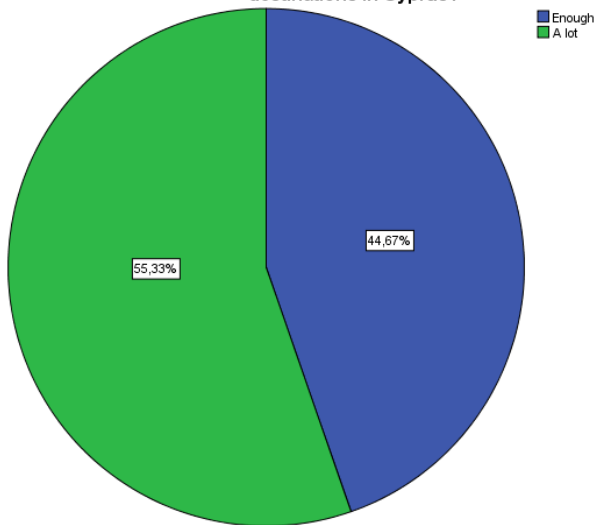
Graphic 8 shows that most participants stated that the water management and restoration project at Oroklini Lake (N=86, 57.33%).



Graphic 8: Knowledge of the water management and restoration project at Oroklini Lake

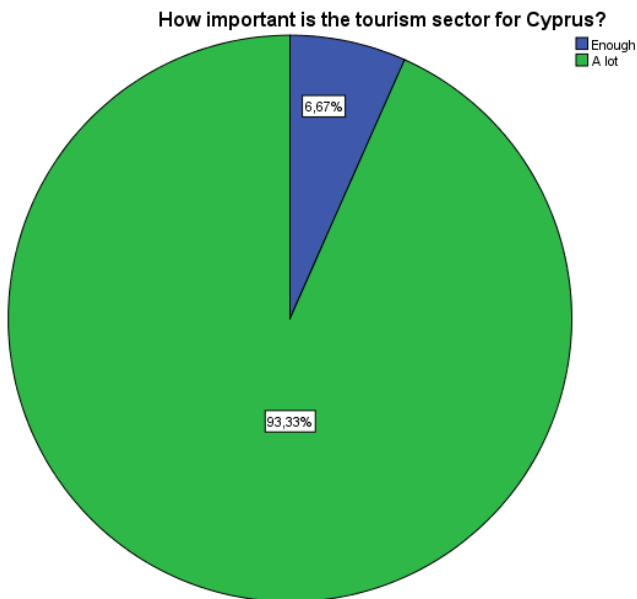
Graphic 9 shows that most are very interested in the problem of environmental impact in various tourist destinations in Cyprus (N = 83, 55.33%) and 44.67% of them are quite interested in the problem of environmental impact in various tourist destinations in Cyprus.

How interested are you in the problem of environmental impact in various tourist destinations in Cyprus?



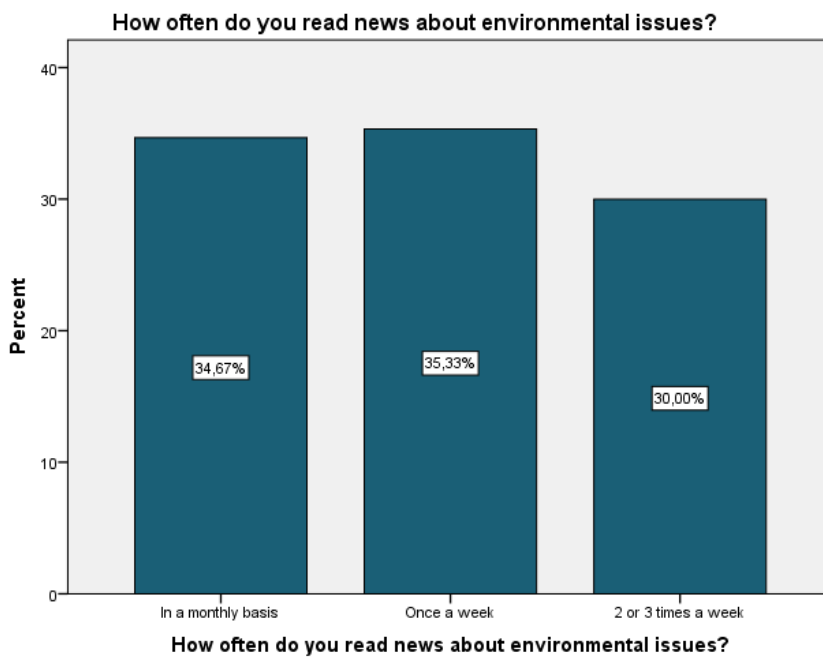
Graphic 9: Interest in the problem of environmental impact in various tourist destinations in Cyprus

Graphic 10 shows that most participants stated that the tourism sector is very important for Cyprus (N = 140, 93.33%) and 8.67% of them stated that the tourism sector is quite important for Cyprus.



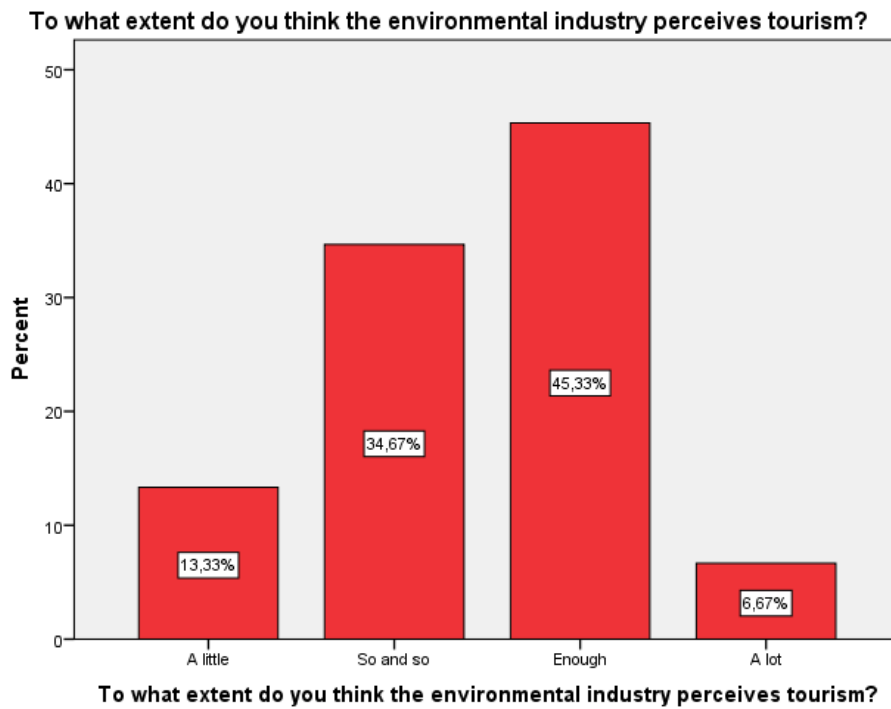
Graphic 10: Importance of tourism for Cyprus

Graphic 11 shows that most participants read news on environmental issues once a week (N = 53, 35.33%). 34.67% of the participants stated that they read environmental news once they read environmental news once a month and 30% of them read 2 or 3 times a week.



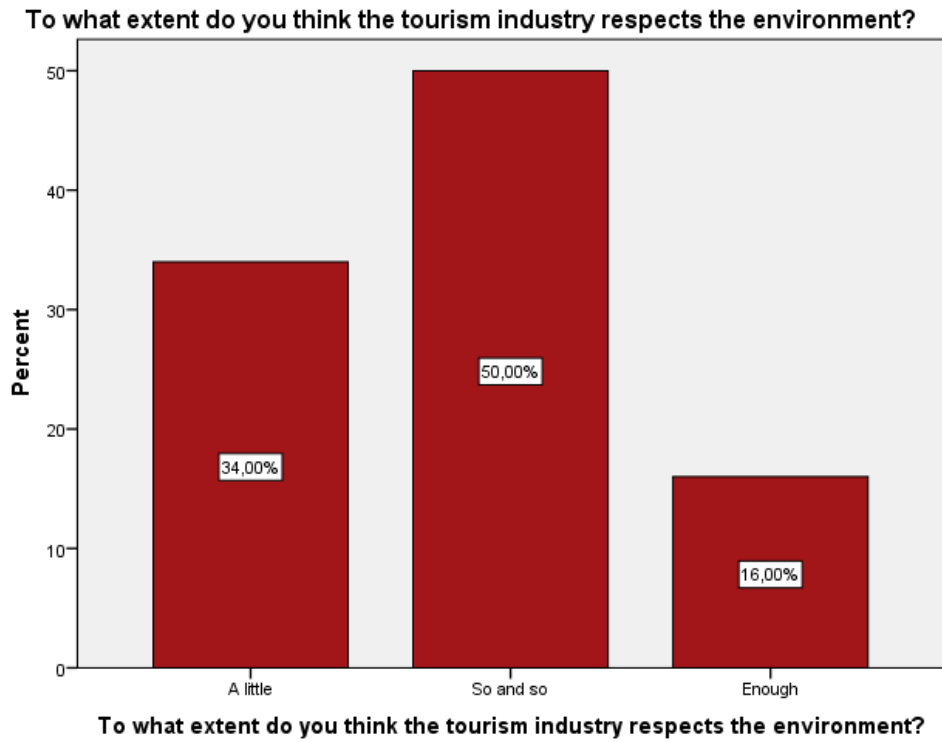
Graphic 11: Frequency of reading environmental articles

Graphic 12 shows that most participants believe that the environmental industry is quite aware of tourism (N = 68, 46.33%). 34.67% of the participants stated that the environmental industry has a moderate perception of tourism, 13.33% of them believe that the environmental industry has a small perception of tourism and 6.67% of them believe that the environmental industry has a high perception of tourism.



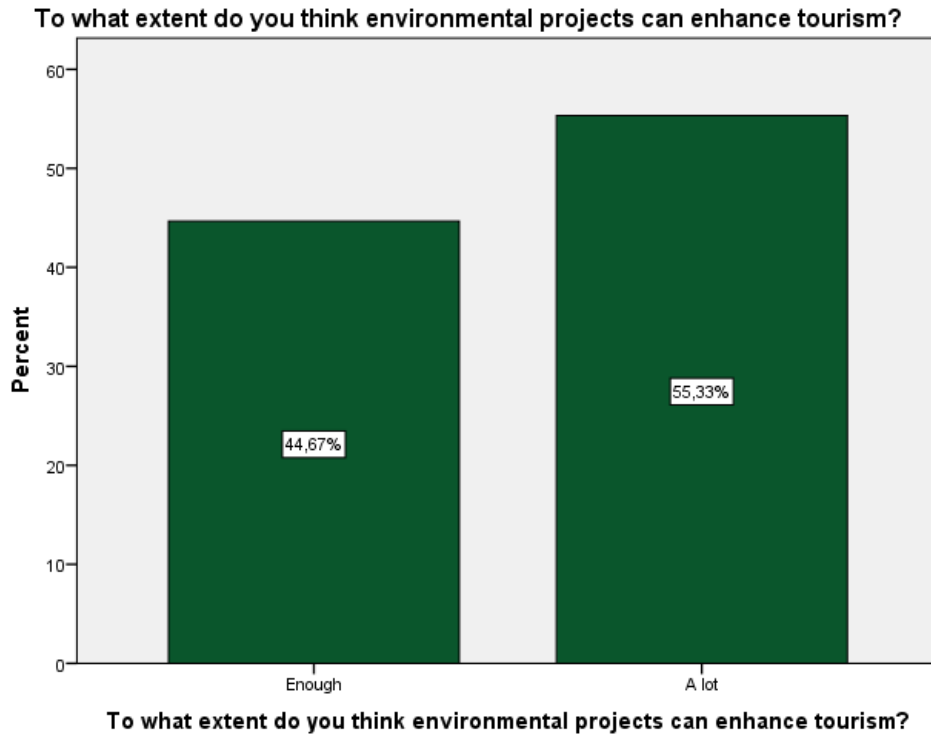
Graphic 12: The environmental industry is quite aware of tourism

Graphic 13 shows that most participants believe that the tourism industry has a moderate respect for the environment (N = 75, 50%). 34% of the participants do not believe that the tourism industry has a moderate respect for the environment, 16% of them believe that the tourism industry has a moderate respect for the environment.



Graphic 13: The tourism industry has a moderate respect for the environment

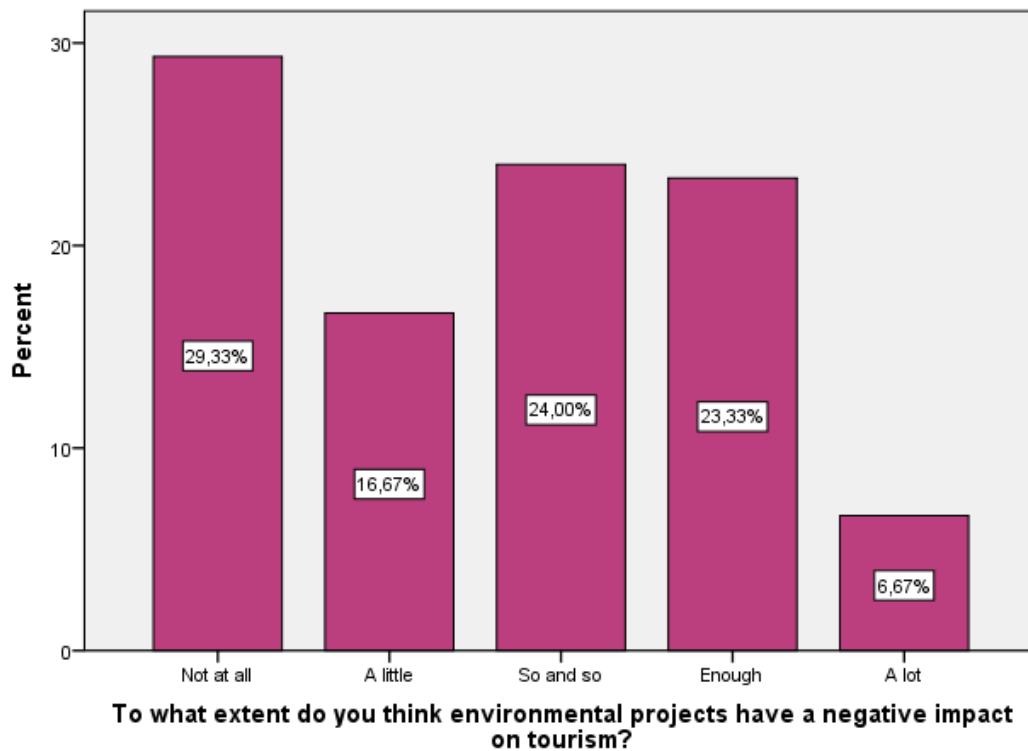
Graphic 14 shows that most participants believe to a large extent (very) that environmental projects can enhance tourism (N = 83, 55.33%). 44.67% of the participants strongly believe that environmental projects can enhance tourism.



Graphic 14: Environmental projects can enhance tourism

Graphic 15 shows that most participants do not believe at all that environmental projects have a negative impact on tourism (N = 44, 29.33%). 24% of participants moderately believe that environmental projects have a negative impact on tourism, 23.33% of participants strongly believe that environmental projects have a negative impact on tourism, 16.67% of them believe to a small extent that environmental projects have a negative impact on tourism and 6.67% of them strongly believe that environmental projects have a negative impact on tourism.

To what extent do you think environmental projects have a negative impact on tourism?



Graphic 15: Environmental projects have a negative impact on tourism

The table below lists the main negative effects that tourism has on the environment according to the opinion of the participants. The main negative effect that tourism has on the environment is its destruction (N = 145, 96.6%). 80% of the participants stated that the negative impact of tourism on the environment is garbage, 65.3% of them stated that the negative impact of tourism on the environment is waste on the beaches, 54.6% of them stated that the negative impact The impact of tourism on the environment is the pollution of the environment and 52% of them stated that the negative impact that tourism has on the environment is the over-consumption of water and energy.

Table 1: The main negative effects that tourism has on the environment

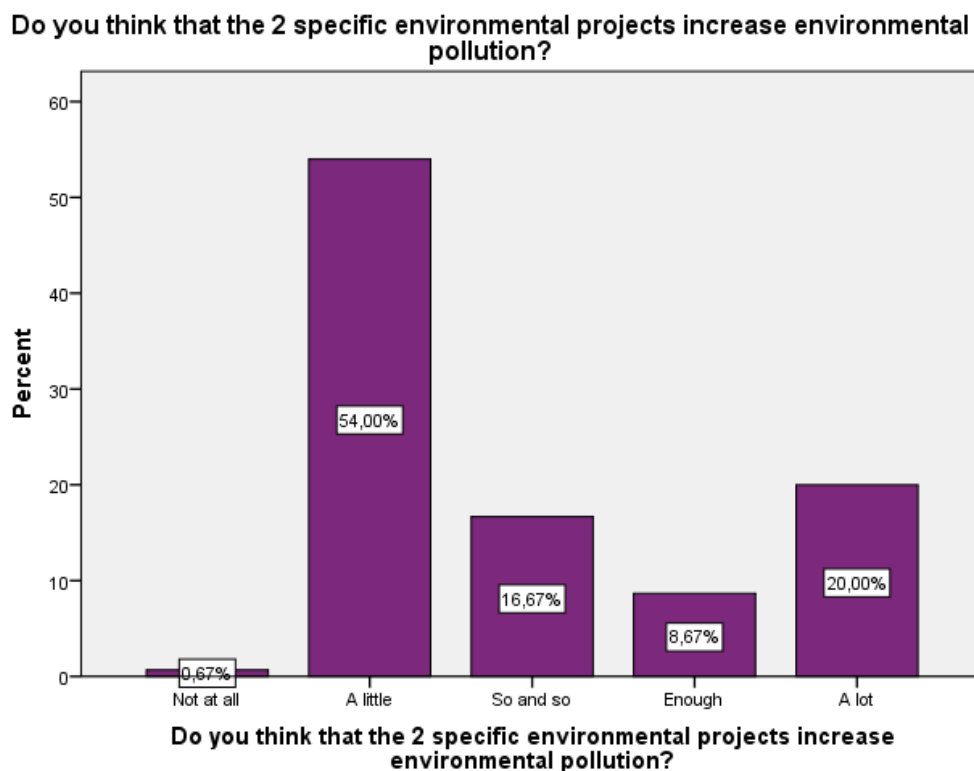
	Frequency	Percentage
Destruction of the environment	145	96.6%
Garbage	120	80%
Waste on the beaches	98	65.3%
Environmental pollution	82	54.6%
Overconsumption of water and energy	78	52%

Table 2 presents the positive effects that environmental projects can have on tourism. Most participants stated that the main positive effect of environmental projects on tourism is the improvement of tourism quality (N = 148, 98.6%). 88% of the participants stated that the positive effect of environmental projects on tourism is the attraction of alternative tourism, 80% of them stated that the positive effect of environmental projects on tourism is the promotion of natural landscapes, 45.3% of them stated that the positive Impact of environmental projects on tourism is cleanliness and 36.6% of them stated that the positive impact of environmental projects on tourism is the cleaner atmosphere.

Table 2: The main positive effects of environmental projects on tourism

	Frequency	Percentage
Improving the quality of tourism	148	98.6%
Attracting alternative tourism	132	88%
Highlighting natural landscapes	120	80%
Cleanliness	68	45.3%
Cleaner atmosphere	55	36.6%

Finally, Graphic 16 shows that most participants stated that the two specific environmental projects slightly increase environmental pollution (N = 81, 54%). 20% of them stated that the two specific environmental projects significantly increase the environmental pollution, 16.67% of them stated that the two specific environmental projects moderately increase the environmental pollution and 8.67% of them do not increase it at all.



Graphic 16: The two specific environmental projects slightly increase environmental pollution

Research questions

1. Is there a difference between the participants who know the two environmental projects under consideration as to whether the environmental industry respects tourism?

To answer the above question, the chi-square test will be performed, at a significance level of 5%.

The two research hypotheses will be identified first:

H0: There is no difference between the participants who know the two environmental projects under consideration as to whether the environmental industry enhances tourism.

H1: There is a difference between the participants who know the two environmental projects under consideration as to whether the environmental industry enhances tourism.

Table 3 shows that the level of importance for both environmental projects under consideration as to whether the environmental industry supports tourism is less than 5%. H1 is therefore accepted, so there is a statistically significant difference between the participants who know the two environmental projects under consideration as to whether the environmental industry supports tourism.

Table 3: Chi-square test for the first research question

	Chi square control value	Degrees of freedom	Level of significance
Are you familiar with the work of the sewage treatment plant at Kato Polemidia?	11.449	1	0.001
Are you familiar with the water management and restoration project at Oroklini Lake?	40.347	2	0.000

2. Is there a difference between the participants who are aware of the two environmental projects under consideration as to whether the tourism industry respects the environment?

To answer the above question, the chi-square test will be performed, at a significance level of 5%.

The two research hypotheses will be identified first:

H0: There is no difference between the participants who are aware of the two environmental projects under consideration as to whether the tourism industry respects the environment.

H1: There is a difference between the participants who are aware of the two environmental projects under consideration in terms of the tourism industry respecting the environment.

Table 4 shows that the level of importance for both environmental projects under consideration as to whether the tourism industry respects the environment is less than 5%. H1 is therefore accepted, so there is a statistically significant difference between participants who know the two environmental projects under consideration as to whether the tourism industry respects the environment.

Table 4: Chi-square test for the second research question

	Chi square control value	Degrees of freedom	Level of significance
Are you familiar with the work of the sewage treatment plant at Kato Polemidia?	12.310	3	0.006
Are you familiar with the water management and restoration project at Oroklini Lake?	14.192	3	0.003

3. Is there a difference between the participants who know the two environmental projects under consideration regarding the interest in the problem of environmental impact in different tourist destinations in Cyprus?

To answer the above question, the chi-square test will be performed, at a significance level of 5%.

The two research hypotheses will be identified first:

H0: There is no difference between the participants who are aware of the two environmental projects under consideration regarding the interest in the problem of environmental impact in various tourist destinations in Cyprus.

H1: There is a difference between the participants who know the two environmental projects under consideration in terms of interest in the problem of environmental impact in different tourist destinations in Cyprus.

Table 5 shows that the level of importance for the work of the wastewater treatment plant at Kato Polemidia in terms of interest in the problem of environmental impact in various tourist destinations in Cyprus is less than 5%. H1 is therefore accepted, so there is a statistically significant difference between the participants who know about the work of the wastewater treatment plant at Kato Polemidia in terms of whether the tourism industry respects the environment.

Table 5: Chi-square test for the third research question

	Chi square control value	Degrees of freedom	Level of significance
Are you familiar with the work of the sewage treatment plant at Kato Polemidia?	10.209	1	0.001
Are you familiar with the water management and restoration project at Oroklini Lake?	0.220	1	0.639

Conclusions - Discussion

150 people from Cyprus participated in the research. Most of the participants were women, aged between 31 and 40, were graduates of higher education, were married, worked as civil servants and had a monthly income of 1001 - 1500 euros.

Most of the participants stated that they are aware of the work of the sewage treatment plant at Kato Polemidia and the work of water management and restoration at Oroklini Lake. Still, most people are very interested in the problem of environmental impact in various tourist destinations in Cyprus, they said that the tourism industry is very important for Cyprus and they read environmental news once a week. The research also shows that the majority of the participants stated that the environmental industry is quite aware of tourism, they believe that the tourism industry has a moderate respect for the environment, they believe to a large extent (very) that environmental projects can enhance tourism, do not believe at all that environmental projects have a negative impact on tourism.

The research also showed that the three main negative effects that tourism has on the environment are its destruction, garbage and waste on the beaches. But the three positive effects that environmental projects can have on tourism are improving the quality of tourism, attracting alternative tourism and highlighting natural landscapes. Finally, most participants stated that the two specific environmental projects slightly increase environmental pollution.

The research questions showed that there is a difference between the participants who know the two environmental projects under consideration as to whether the environmental industry enhances tourism and that the tourism industry respects the environment, while there is a difference between the participants who know about its work wastewater treatment plant at Kato Polemidia as to whether the tourism industry respects the environment.

All new activities that develop in an area, including tourism, bring about a variety of changes and implications, which are not always negative. More specifically, the contribution of tourism to economic development is very important, as it is a valuable source of income, while it contributes to employment, through the creation of new jobs. In addition, it contributes to the development of the

tourist destination, through infrastructure projects, but also to the regional development of geographically degraded and isolated areas.

It is very important to mention at this point that in both projects an environmental impact assessment study was carried out, in order to ensure that both projects follow the environmental legislation, and that the results from their construction will not be harmful to the environment.

In terms of socio-cultural dimension, tourism leads to the contact of different cultures and the exchange of cultural and educational elements between locals and tourists. In addition, it promotes the development of a sense of pride of the locals for their place and culture, while contributing to the preservation of important elements of the cultural heritage of the tourist destination.

Regarding the positive effects of tourism on the environment, tourism activity can contribute to the preservation and improvement of the environment, if properly planned and brought under control. In other words, tourism can be a source of income for the preservation of important natural areas that are tourist attractions. It may also contribute to the improvement of the quality of the environment, through controls of air quality, water, noise pollution, etc., but also to help upgrade the environment and, above all, the natural resources of the tourist destination, or through projects to promote natural resources, or through private initiatives to protect environmental resources. In addition, tourism contributes to the improvement of infrastructure, with the result that when local infrastructure is upgraded, pollution problems are reduced and the environmental quality of tourist destinations is enhanced.

In conclusion, the contribution of tourism to development is very important for a tourist destination, either regionally, nationally or internationally. However, despite the positive contribution of tourism to development, tourism activity has a variety of negative effects, with the most significant environmental pressures on the natural and man-made environment. Therefore, it is necessary to implement various measures and policies in the tourist destinations that are facing problems. According to Fennell (2001), an important measure to improve the ecological situation (stability) are land management techniques, which include improving infrastructure in less used parts of the environment, in order to

remove people from ecologically depleted areas. Fennell also cites direct management techniques, which aim to directly regulate user behavior in an area (e.g. (a) zoning and / or timing of use zones, in order to reduce conflicts between incompatible uses, (b) reduction of the intensity of use, ie reduction of the number of users in the natural environment through closure of several paths, (c) restriction of activities and strengthening of the rules of use).

Another measure is considered to be the creation of an environmental program for the country, which will address the significant environmental problems, with the aim of protecting the environment and natural resources and maintaining the overall environmental quality. In this context, tourism can provide additional incentives in areas to "clean up" the wider environment in which it develops through the control of air and water pollution, as well as noise pollution and waste management, while at the same time can lead to improvement of environmental aesthetics through architectural design and maintenance of buildings. It is also important to maintain a moderate growth rate of tourism, especially in developing tourist areas, in order to give sufficient time for the proper planning and development of the site and for the monitoring and control of environmental impacts (Jenkins & Lickorish, 2004).

In conclusion, understanding the importance of sustainable tourism development as a necessary component for the development of the country, in harmony with the environment several actions can be proposed. For example, to carry out special planning of tourist development aiming at the balance between society, economy and environment combined probably with a special institutional framework that will promote the processes of sustainable tourism development and development of tourism activities and uses based on scientific studies regarding renewable resources. Moreover, by promoting alternative forms of tourism as a key axis of national and local tourism development or upgrading the quality of the environment and the aesthetics of the built environment of the tourist areas, especially in the key areas of cleanliness. In addition to these, can be provided support to hotel units for the required investments aimed at modernization and upgrading. Besides that Cultivation and promo-

tion of tourist and environmental awareness seem to be important action and construction of complementary projects to improve on the one hand the life of the citizens and on the other hand for the better service of the visitors. Informing citizens and entrepreneurs on issues of protection of the natural environment and afterwards establishment of centers that will promote the natural and cultural environment. Finally, planning actions to understand the importance and role of the environment for local tourism development such as the organization of seminars on tourism and the environment.

Bibliography

Adams, J. (2014). *Research Methods for Business and Social Science Students. 2nd Edition*. Delhi: SAGE Publications Ltd.

Aref, F. & Gill, S.S. (2009). Rural tourism development through rural cooperatives. *Nature and Science*, 7, 68-73.

Battaglini, L. et al. (2014). Environmental sustainability of Alpine livestock farms. *Italian Journal of Animas Science*, 13, 431-443.

Becken S. et al. (2007). *Tourism and Climate Change – Risks and Opportunities*. Cleveland: Channel View Publications.

Bryan, A. (2015). *Social Research Methods (5th edn.)*. Oxford: University Press.

Buhalis, D. (2000). Marketing the Competitive Destination of the Future. *Tourism Management*, 21, 97-116.

Butler, R.V. (1997). The Concept of Carrying Capacity for Tourism Destinations: Dead or Merely Buried?. In C. Cooper and S. Wanhill (Eds.). *Tourism development: Environmental and community issues*. Chichester: John Wiley & Sons.

Candrea, A.N. (2013). Ecotourism development in Romania – A possible contribution to the fulfillment of the real convergence criteria for euro adoption. *Bulletin of the Rransilvania University of Brasov*, 6, 90-96.

Cardoso J.M. (2005). Construction site environmental impact in civil engineering education. *European Journal of Engineering Education*, 30, 51-58.

Cavender-Bares, J. et al. (2013). Sustainability and biodiversity. In S.A. Levin (Ed.). *Encyclopedia of biodiversity Elsevier*. Amsterdam, 71-84.

Chandralal, K.P.L. (2010). Impacts of tourism and community attitude towards tourism: A case study in Sri Lanka. *South Asian Journal of Tourism and Heritage*, 3, 41-49.

Chen Z. et al. (2000). Environmental management of urban construction projects in China. *Journal of Construction Engineering and Management*, 126, 320-324.

Chen Z. et al. (2005). Environmental Planning: Analytic network process model for environmentally conscious construction planning. *Journal of Construction Engineering and Management*, 131, 92-101.

Cohen, L. et al. (2008). *Μεθοδολογία Εκπαιδευτικής Έρευνας*. Αθήνα: Μεταίχμιο.

Cole, R.J. (1999). Building environmental assessment methods: clarifying intentions. *Building Research and Information*, 27, 230-246.

Coolican, H. (2004). *Research Methods and Statistics in Psychology* (4th edn.). London: Hodder & Stoughton.

Creswell, H. (2004). *Research Methods and Statistics in Psychology* (4th edn.). London: Hodder & Stoughton.

Creswell, J.W. (2011). *Η έρευνα στην εκπαίδευση: Σχεδιασμός, διεξαγωγή και αξιολόγηση της ποσοτικής και ποιοτικής έρευνας*. Αθήνα: Εκδόσεις Έλλην.

Dwyer, L. (2001). *Destination Competitiveness: Determinants and Indicators* (Unpublished Report).

Dwyer, L. et al. (2000). The price competitiveness of travel and tourism: a comparison of 19 destinations. *Tourism Management*, 21, 9-22.

Dwyer, L. & Kim, C. (2003). Destination competitiveness: Determinants and indicators. *Current Issues in Tourism*, 6, 369-414.

Egbali, N. et al. (2011). Effects of positive and negative rural tourism. *Journal of Geography and Regional Planning*, 4, 63-76.

Fallon, L.D. & Kriwoken, L.K. (2003). Community involvement in tourism infrastructure: the case of the Strahan Visitor Centre, Tasmania. *Tourism Management*, 24, 289-308.

- Fennell, D.A. (2001). *Οικοτουρισμός*. Αθήνα: Εκδόσεις Έλλην.
- Field, A. (2009). *Discovering Statistics Using SPSS*. London: Sage Publications Ltd.
- Fink, A. (2009). *How to Conduct Surveys: a Step-by-Step Guide* (4th edn.). Thousand Oaks: Sage.
- Fons, M.V.S. et al. (2011). Rural tourism: A sustainable alternative. *Applied Energy*, 88, 551–557.
- Go, F.M. & Govers, R. (2000). Integrated quality management for tourist destinations: A European perspective on achieving competitiveness. *Tourism Management*, 21, 79–88.
- Gomezelj, D.O. & Mihalic, T. (2008). Destination competitiveness – Applying different models, the case of Slovenia. *Tourism Management*, 29, 294-307.
- Goulding, R. et al. (2014). The importance of sustainable tourism in reversing the trend in the economic downturn and population decline of rural communities. *Revista de Turismo y Patrimonio Cultural*, 12, 549-563.
- Gray, D. (2017). *Doing Research in the Real World*. London: Sage.
- Hankinson, G. (2004). The brand images of tourism destinations: a study of the saliency of organic images. *Journal of Product and Brand Management*, 13, 6-14.
- Hassan, S.S. (2000). Determinants of market competitiveness in an environmentally sustainable tourism industry. *Journal of Travel Research*, 38, 239-245.
- Hocquette, J.F. & Chatellier, V. (2011). Prospects for the European beef sector over the next 30 years. *Animal Frontiers*, 1, 20-28.
- Hunziker, M. et al. (2008). Evaluation of landscape change by different social groups. *Mountain Research and Development*, 28, 140-147.
- Jenkins, C. & Lickorish, L. (2004). *Μια Εισαγωγή στον Τουρισμό*. Αθήνα: Εκδόσεις Κριτική.

Inskeep, E. (1991). *Tourism planning: An integrated and sustainable development approach*. New York: Van Nostrand Reinhold.

Ite, U.E. (1996). Community perception of the cross river national park. *Nigeria Environmental Conservation*, 23, 351-357.

Jafari, J. (2000). *Encyclopedia of tourism*. London: Routledge.

Javeau, C. (2000). *Η Έρευνα με Ερωτηματολόγιο: το Εγχειρίδιο του Καλού Ερευνητή*. Αθήνα: Τυπωθήτω.

Jennifer, K. et al. (2010). Using resilience concepts to investigate the impacts of protected area tourism on communities. *Annals of Tourism Research*, 37, 499-519.

Jurowski, C. (1994). *The Interplay of elements Affecting Host Community Resident Attitudes toward Tourism: A Path Analytic Approach* (Doctoral dissertation). Virginia Polytechnic Institute and State University.

Jurowski, C. & Gursoy, D. (2004). Distance effects on residents' attitudes toward tourism. *Annals of Tourism Research*, 31, 296-312.

Kalaiya, A.B. & Kumar, A. (2015). Tourism as a development tool: A study on role of tourism in economic development, employment generation and poverty reduction: Special focus on Kachchh. *International Journal of Advance Research in Computer Science and Management Studies*, 3, 189-197.

Kaul, R.N. (1985). *Dynamics of tourism: A trilogy, Vol. III*. New Delhi: Transportation and Marketing.

Kein, A.T.T. et al. (1999). ISO 14000: its relevance to the construction industry of Singapore and its potential as the next industry milestone. *Construction Management and Economics*, 17, 449-461.

Kim, N. (2012). *Tourism destination competitiveness, globalization, and strategic development from a development economics perspective*. Dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Recreation, Sport and Tourism in the Graduate College of the University of Illinois at Urbana-Champaign.

Kulcsar, N. (2009). *Rural tourism in Hungary: The key of competitiveness*. Proceedings of FIKUSZ '09 Symposium for Young Researchers, 121-127.

Langford, D.A. et al. (1999). Design and managing for sustainable buildings in the UK. In *Profitable partnering in construction procurement, CIB W92 (Procurement Systems) and CIB23 (Culture in Construction)*, Joint Symposium, London, 373-382.

Langston, C. & Ding, G.K.C. (1997). The Planet in Crisis. In C. Langston (ed.). *Sustainable practices: ESD and the construction industry*. New York, 13-20.

Levin, H. (1997). Systematic evaluation and assessment of building environmental performance (SEABEP). *Proceedings of Second International Conference, Building and the Environment, June, Paris*,

Lewin, C. (2005). Elementary Quantitative Methods. In B. Somekh and C. Lewin (Eds.). *Research Methods in the Social Sciences*. London: SAGE Publications, 215-225.

Lin, L.Z. & Yeh, H.R. (2013). Analysis of tour values to develop enablers using an interpretive hierarchy-based model in Taiwan. *Tourism Management*, 34, 133-144.

Liu, Z. (2003). Sustainable tourism development: a critique. *Journal of Sustainable Tourism*, 11, 459-475.

Mak, W. et al. (2009). Sense of community in Hong Kong: relations with community-level characteristics and residents' well-being. *American Journal of Community Psychology*, 44, 80-92.

Manuel, J.L.-B. & Miguel, L.L.-B. (2008). Measuring social carrying capacity: An exploratory study. *TOURISMOS: An International Multidisciplinary Journal of Tourism*, 3, 116-134.

March, M.C. (1992). Construction and environment: a management matrix. *Chartered Builder*, 4, 11-12.

Mbaiwa, J.E. (2008). *Tourism development, rural livelihoods, and conservation in the Okavango Delta, Botswana*. A Dissertation submitted to the Office of Graduate Studies of Texas A&M University in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Melo, F.V.S. & Farias, S.A.D. (2014). Sustainability as an identity factor of tourist destinations at websites: Does the consumer care?. *Brazilian Business Review*, 11, 135-158.

Mihalic, T. (2000). Environmental management of a tourist destination: A factor of tourism competitiveness. *Tourism Management*, 21, 65-78.

Miller, M.A.L. (2006). *Paradise Sold, Paradise Lost: Jamaica's Environment and culture in the tourism marketplace*. In Baver and Lynch, 35-43.

Miranda, E.M. (2007). *Gang injunctions and community participation*. University of Southern California.

Mitchell, M.L. & Jolley, J.M. (2007). *Research Design Explained*. USA: Thomson Wadsworth.

Niñerola, A. et al. (2019). Tourism Research on Sustainability. *Sustainability*, 11, 1-17.

Prideaux, B. (2000). The role of the transport system in destination development. *Tourism Management*, 21, 53-63.

Ofori, G. et al. (2000). Impact of ISO 14000 on construction enterprises in Singapore. *Construction Management and Economics*, 18, 935-947.

Reimer, J. K. & Walter, P. (2013). How do you know it when you see it? Community-based ecotourism in the Cardamom Mountains of Southwestern Cambodia. *Tourism Management*, 34, 122-132.

- Ritchie, B.J.R. & Crouch, G.I. (1993). Competitiveness in international tourism – A framework for understanding and analysis. *Reports on 43rd Congress*, 35, 23-71.
- Ritchie, J.R.B. & Crouch, G.I. (2000). The competitive destination, a sustainable perspective. *Tourism Management*, 21, 1-7.
- Robson, C. (2002). *Real World Research*. Oxford: Blackwell Publishing.
- Scales, I.R. (2014). The future of biodiversity conservation and environmental management in Madagascar: lessons from the past and challenges ahead. In I.R. Scales (Ed.). *Conservation and environmental management in Madagascar*. London and New York: Routledge. 342-360.
- Scheuer, C. et al. (2003). Life cycle energy and environmental performance of a new university building: modelling challenges and design implications. *Energy and Buildings*, 35, 1049-1064.
- Shen L.Y. & Tam V.W.Y. (2002). Implementation of environmental management in the Hong Kong construction industry. *International Journal of Project Management*, 20, 535-543.
- Sedmak, G. & Mihalic, T. (2008). Authenticity in mature seaside resorts. *Ann. Tourism Res.*, 35, 1007-1031.
- Sekhar, N.U. (2003). Local people's attitudes towards conservation and wildlife tourism around Sariska Reserve, India. *Journal of Environmental Management*, 69, 339-347.
- Sharma, B., & Dyer, P. (2009). Residents' involvement in tourism and their perceptions of tourism impacts. *Benchmarking: An International Journal*, 16, 351-371.
- Spencer, D. M., & Nsiah, C. (2013). The economic consequences of community support for tourism: A case study of a heritage fish hatchery. *Tourism Management*, 34, 221-230.
- Sterner, E. (2002). Green procurement of buildings: A study of Swedish clients' considerations. *Construction Management and Economics*, 20, 21-30.

Swarbrooke, J. (2002). *Sustainable tourism management*. Oxon: CABI Publishing.

Taylor, M. (2000). *Life, Land and Power, Contesting Development in Northern Botswana* (Doctoral dissertation). University of Edinburgh.

Tosun, C. (2006). Expected nature of community participation in tourism development. *Tourism Management*, 27, 493-504.

Vengesayi, S. (2003). *A conceptual model of tourism destination competitiveness and attractiveness*. ANZMAC Conference Proceedings Adelaide.

Uher, T.E. (1999). Absolute indicator of sustainable construction. In *Proceedings of COBRA 1999, RICS Research Foundation, RICS*, London, 243-253.

Weladji, R.B. et al. (2003). Stakeholder Attitudes Towards Wildlife Policy and the Bonoe.

Wilde, S.J. & Cox, C. (2008). Linking destination competitiveness and destination development: Findings from a mature Australian tourism destination. *Proceedings of the Travel and Tourism Research Association (TTRA) European Chapter Conference – Competition in Tourism: Business and Destination Perspectives*. Helsinki, Finland, 467-478.

Worldwatch Institute (2003). *Sustainable facilities: building material selection, West Michigan sustainable Business Forum*. Διαθέσιμο από: <http://www.sustainablebusforum.org/bldgmat.html>

WTO (1994). *Global tourism forecasts to the Year 2000 and Beyond*. Madrid: WTO.

World Tourism Organization (UNWTO), United Nations Environment Programme (UNEP) & World Meteorological Organization (WMO) (2008). *Climate Change and Tourism: Responding to Global Challenges*. UNWTO, Madrid, and UNEP, Paris.

World Travel and Tourism Council (WTTC) (2015). *Economic Impact of Travel & Tourism. 2015 Annual Update Summary*. Report.

Yoon, Y. (1998). *Determinants of urban residents perceived impacts: A study of Williamsburg and Virginia Beach areas* (Unpublished master thesis). Virginia Polytechnic Institute and State University, Blacksburg.

Yoon, Y. et al. (2000). Validating a tourism development theory with structural equation modelling. *Tourism Management*, 22, 363-372.

Yu, C.P. et al. (2011). Examining the effects of tourism impacts on resident quality of life: Evidence from rural Midwestern communities in USA. *International Journal of Tourism Sciences*, 11, 161-186.

Yu, A. (2014). Study on the development of county tourism. *International Conference on Education, Language, Art and Intercultural Communication (ICELAIC 2014)*, 673-676.

Zhang, H. & Lei, S.L. (2012). A structural model of residents' intention to participate in ecotourism, the Case of a wetland community. *Tourism Management*, 33, 916-925.

Zoto, S. et al. (2013). Agrotourism – A sustainable development for rural area of Korca. *European Academic Research*, 1, 209-223.

Annex

Questionnaire

Personal information

Please fill in the following information as accurately as possible. If you want to maintain your anonymity, you can leave the field blank with your personal details.

Full name.....
Address.....
Phone..... E-mail.....

1. Age

- A. Under 18
- B. 18 to 24
- C. 25 to 30
- D. 31 to 40
- E. 41 and above

2. Education

- A. Elementary school
- B. High School
- C. University

3. Occupation

- A. Civil servant
- B. Entrepreneur
- C. Private employee
- D. Retired

E. Student

St. Another

4. Monthly income

A. Less than 10,000

B. 10,000 – 20,000

C. 20,001 – 35,000

D. 35,001 and above

5. Marital status

A. Single

B. Married

6. Are you aware of the project of the wastewater treatment plant at Kato Polemidia?

Yes

No

7. Are you aware of the project of water management and restoration at Oroklini Lake?

Yes

No

8. How interested do you feel in the problem of environmental impact in various tourist destinations in Cyprus? (5 = very, 4 = enough, 3 = so and so, 2 = little, 1 = not at all)

1 2 3 4 5

9. How important is the tourism industry for Cyprus?

(5 = very, 4 = enough, 3 = so and so, 2 = little, 1 = not at all)

1 2 3 4 5

10. How often do you read about environmental issues?

- A. Almost never
- B. In a monthly basis
- C. Once a week
- D. 2 or 3 times a week
- E. Almost every day

11. To what extent do you think the environmental industry perceives tourism?

(5 = very, 4 = enough, 3 = so and so, 2 = little, 1 = not at all)

1 2 3 4 5

12. To what extent do you think the tourism industry respects the environment?

(5 = very, 4 = enough, 3 = so and so, 2 = little, 1 = not at all)

1 2 3 4 5

13. To what extent do you think environmental projects can boost tourism?

(5 = very, 4 = enough, 3 = so and so, 2 = little, 1 = not at all)

1 2 3 4 5

14. To what extent do you think environmental projects have a negative impact on tourism?

(5 = very, 4 = enough, 3 = so and so, 2 = little, 1 = not at all)

1 2 3 4 5

15. Report three negative effects that you believe tourism impacts on the environment.

16. Report three positive effects that environmental projects may have in tourism.