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### **Contradictions in Sustainability in Tourism Destinations.**

### **The Cargo Port of Paros Island.**

Master Thesis

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## **Dedication**

To my Sofia, with love.



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### Abstract in Greek

Είναι γεγονός πως ο τουρισμός αποτελεί μία από τις μεγαλύτερες βιομηχανίες παγκοσμίως. Από τη μόνιμα αυξανόμενη ζήτηση, προκύπτει η ανάγκη για όλο και μεγαλύτερη προσφορά σε λιγότερο ή περισσότερο διαδεδομένους προορισμούς. Η αλματώδης ανάπτυξή του και οι αέναες ανάγκες των ανθρώπων ωστόσο έρχονται πάντα με ένα τίμημα. Η παρούσα διπλωματική διεισδύει στον όρο “βιωσιμότητα”, ανατρέχει στις πρώτες στιγμές που ειπώθηκε και στη συνέχεια παρατηρεί τον αντιφατικό του χαρακτήρα. Πού σταματάμε; Πότε μπαίνουν όρια στην ανάπτυξη για χάρη των κοινωνιών μας και της φύσης που μας περιτριγυρίζει; Μπορεί τα παραπάνω ερωτήματα να μην έχουν απαντηθεί με σαφήνεια, όμως τίθενται και δεν έχουν άλλο σκοπό από το να προβληματίσουν. Τουλάχιστον για αρχή. Σκοπός της συγκεκριμένης διπλωματικής εργασίας, είναι να εξετάσει τις ενδεχόμενες αντιφάσεις που προκύπτουν στη βιωσιμότητα σε τουριστικούς προορισμούς. Η μελέτη αυτή γίνεται μέσα από τη μελέτη περίπτωσης του εμπορικού λιμένα της Πάρου. Πιο συγκεκριμένα, ρίχνει τα φώτα της στο εμπορικό λιμάνι της νήσου Πάρου και εξετάζει το σενάριο που το θέλει να μεταφέρεται σε ένα μικρό κόλπο στο ανατολικό τμήμα του νησιού. Για την εκπόνηση συμπερασμάτων χρησιμοποιήθηκαν ερωτηματολόγια, στα οποία κλήθηκαν να απαντήσουν μόνιμοι και εποχικοί κάτοικοι του νησιού. Η πλειονότητα των ανθρώπων φαίνεται να ευαισθητοποιείται σχετικά με τα ζητήματα της φύσης, της άγριας ζωής και συγχρόνως να σέβεται τα ανθρώπινα δικαιώματα, ωστόσο παρατηρούνται αντιφάσεις. Η αποσυμφόρηση του λιμένα της Παροικιάς μπορεί να λειτουργήσει καταστρεπτικά για έναν υγρότοπο. Ακόμη, είναι πιθανή η υποβάθμιση των τοπικών κοινωνιών αλλά και του τουρισμού στις γύρω περιοχές. Τέλος, στις αποφάσεις του Δήμου φαίνεται πως αντιτίθεται η συντριπτική πλειονότητα των κατοίκων της περιοχής.

**Key Words:** *αντιφάσεις, βιωσιμότητα, τουριστικοί προορισμοί, εμπορικό λιμάνι, περιβάλλον, ανάπτυξη*

### **Abstract in English**

It is a fact that tourism is one of the largest industries in the world. From the ever-increasing demand, there is a need for more and more supply in more or less widespread destinations. Its rapid growth and the enduring needs of the people, however, always come at a price. The present diplomacy penetrates the term "sustainability", looks back to the first moments that were said, and then observes its contradictory character. Where do we stop? When do we put limits on development for the sake of our societies and the nature that surrounds us? The above questions may not have been answered clearly, but they are asked and have no other purpose than to ponder. At least for a start in the right direction. The purpose of this thesis is to examine the possible contradictions that arise in the sustainability of tourist destinations. This research is done through the case study of the commercial port of Paros. More specifically, it sheds light on the island's port and examines the scenario of transferring the port to a small bay in the eastern part of the island. Questionnaires were used to draw conclusions, to which permanent and seasonal residents of the island were asked to answer. Most people seem to be aware of the issues of nature, wildlife and at the same time respect human rights, but there are contradictions which worth studying in depth. The decongestion of Parikia's port may have a devastating effect on a wetland. It is also possible the degradation of local communities and tourism in the surrounding areas. Finally, the decisions of the Municipality seem to be opposed by most residents of the area.

**Keywords:** *sustainability contradictions, tourism destinations, cargo port, environment, local development*

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## Abbreviations

TAXA	Classification units
G.N.T.O.	Greek National Tourism Organization
E	Endangered Species
UN	United Nations
SEA	Special Ecological Assessment
SPA	Special Protection Areas
WTO	World Tourism Organization
UN	United Nations
SPZ	Special Protection Zone
UNEP	United Nations Environment Program

## Introduction

For more than twenty years now, the island of Paros has had rumors of creating another port, beyond the main port already in use. Decisions are presented continuously. The proposed points change, the residents sometimes protest, and sometimes they overlook the fact that the plans for transporting the port are not always very stable. Sometimes there is talk of interests and encroachment on wetlands or other protected areas and other times on the immediate need for another port. Opinions differ, stakeholders are many and priorities are different for everyone. The economic development and the expansion of the tourist season on the island is something that almost everyone is considering. In recent years, however, the need to preserve nature and ecosystems seems to be of increasing importance.

Can we find the balance between them?

This research deals with contradictions that arise within a system of sustainable development. In addition, it examines whether, in the case of port transfer, viability continues to exist. It is rooted in the need to continue to exist harmoniously as a species, in our natural environment.

A necessary component when talking about sustainability is for both the economy and the local communities and of course the environment to coexist. But what happens when one or two of the three bases are superior to the third? How can we restore balance and how necessary is it for our future?

And yet, to what extent are we talking about sustainable development? Where are the limits set?

In the following survey, contradictions between development and the environment are highlighted. With public opinion being so divided, perhaps it is time we pick a side?

### **1.1 The concept of sustainability and sustainable development**

Sustainability was first expressed as the model that is able to ensure the perpetual, developmental course of human society, through a natural system. (Dennis Meadows et al., 1972)

The term has been modified many times since then, but its core remains the same. It is more or less a model of production, which has as its main purpose the best possible result both for man and for the economy and the natural environment. A basic condition is the balance between the production of goods and the renewal of natural resources. Sustainability implies that natural resources are renewed faster than they are consumed. In a sustainable system where resources are not exhausted, the maintenance of social cohesion in the present and in the indefinite future is ensured. This is the necessary condition for the planet to be capable of supporting life for future generations.

This model was later characterized as sustainable development. The first official definition of the term was given in 1987 in the report "Our Common Future" or Brundtland Report. According to this publication, " Sustainable Development is the one that meets the needs of the present, without reducing the ability of future generations to meet their own." (Gro - Harlem Brundtland 1987)

Similar to the definition of sustainability, - sustainable development aims to ensure the utilization of natural resources without causing permanent and irreversible environmental damages. (World Commission on Environment and Development, 1987) To ensure the above, it is necessary to balance the triptych, economic development, social cohesion, and environmental protection. These three objectives are the pillars of sustainable development.

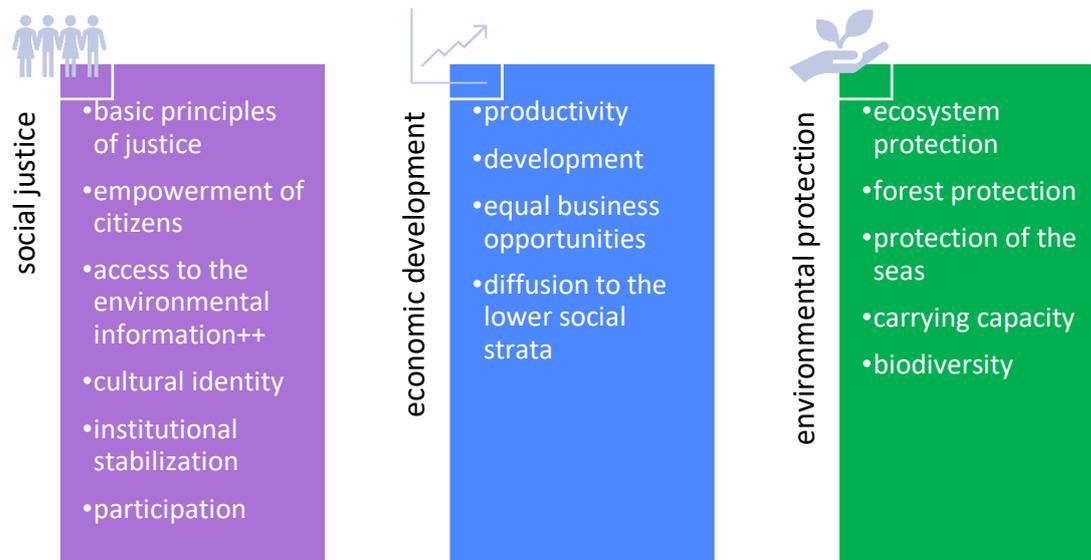


Figure 1. Pillars of Sustainability, Source: Andriotis, 2000

## 1.2 Historical background of the term

In 1713, it is not sustainability as it is known today, but the very first approach of the idea enters first bloom. Tax accountant and mining administrator, Hans Carl von Carlowitz, makes the following analogy, "As many trees as are cut down in the forests should be planted to grow again ..." and thus formulates the beginning of sustainability as we know it today.

In 1798, Thomas Robert Malthus published a book entitled "An Essay on the Principle of Population", in which he emphasizes that the population of our planet is unsustainable, as it is growing exponentially relative to the available food and other resources.

However, it took years for this idea to mature, right up until the Stockholm Conference in 1972. The conference went down in history for the radical speech of the Prime Minister of India, Indira Gandhi. In her speech, she linked the high levels of poverty in the world with the degradation of the natural environment, accusing the developed

countries of exploiting the natural resources of the developing countries to serve their own interests.

Shortly afterward, the Club of Rome published the book "Limits to Growth", in which the economy is directly linked to ecology and population growth, giving an early formulation of the definition of sustainability.

In the late 1980s, the environmental crisis is more than apparent, and the global community is realizing that the growth rates of both the economy and societies and the current pattern of development are significantly damaging the environment. The balance is lost, and the natural resources do not manage renewal at the very fast pace that they are consumed.

In 1983, the United Nations set up The World Commission on Environment and Development, chaired by the then Prime Minister of Norway, Gro-Harlem Brundtland. A few years later, in 1987, the WCED published Our Common Future, known as the Brundtland Report. According to the report, "sustainable development is one that meets the needs of the present without undermining the ability of future generations to meet their own needs." It also emphasizes the need for governments and citizens to take responsibility for the policies that will be followed and their impacts, as it is considered necessary to integrate the economy with ecology. At the same time, the ideas of intragenerational equity (within the same generation) and intergenerational (from generation to generation) justice flourish. According to this assumption, the purpose is to ensure the utilization of natural resources without causing permanent and reversible environmental changes.

Considering sustainable development, the triptych - economic development - social cohesion - environmental protection, both now and in the future, must be ensured.

Five years later, in 1992, the issue came to light again and a conference on the environment and development took place in Rio.

This was followed in 1996 by a conference in Istanbul on "The city summit," then by the New York conference in 1997, which approved the Kyoto Protocol and the 2002

conference in Johannesburg, in which progress was made in the absence of the USA, due to Bush boycott of the conference. In addition, harsh criticism is leveled at the attempt to "green" neo-liberal policies.

In June 2012 in Rio de Janeiro, Brazil, where the global community was called upon to ensure an agreement on the shift of global economies towards sustainability. At the United Nations Conference on Sustainable Development (Rio +20) Member States adopted the outcome document "The Future We Want". The Rio +20 outcome also contained other measures for implementing sustainable development, including mandates for future programmes of work in development financing, small island developing states and more.(United Nations, 2012)

The most recent developments are the 20th Conference of the Parties on Climate Change and the 10th Meeting of the Parties on the Kyoto Protocol, which took place together in Lima, Peru, in December 2014.

Finally, in January 2015, the General Assembly began the negotiation process on the post-2015 development agenda. The process culminated in the subsequent adoption of the 2030 Agenda for Sustainable Development, with 17 Sustainable Development Goals at its core, at the UN Sustainable Development Summit in September 2015.

### **1.3 Interpretations of sustainable development and contradictory requirements of the term**

Sustainable development is widely used in development policy visions and programs. It appears in advertising slogans, in academic programs, etc. Although the term is increasingly used and implied as the solution to many problems, it seems that, there

are points that have not been fully clarified. In a more detailed analysis, there are contradictions and difficulties in the implementation of sustainability.

A contradictory point is that in the world conferences for sustainable development that take place over the years, countries with substantial gaps in terms of social and economic differences take part, attempting to find a compromising solution. The United States and Uganda, for example, are diametrically opposed countries. Different cultures with different stories and different living standards tend to consequently have completely different priorities and perspectives on what needs to happen to improve the world economy. Although, it needs to be ensured the salvation of the environment, the equalization of inequalities, and also the chance for equal opportunities to all.

Even the very term "development" is perceived in various ways by the distinct cultures. For a western man it is equivalent to "growth" in a specific way that differs to other cultures.

The term "development" is often associated to "positive change" or evolution. Analyzing these terms, we are talking about a better standard of living, health, or a collective 'good' from which society in general benefits. However, it is questionable whether or not we can achieve this common 'good' and positive change without contributing to the detriment of the weaker parts of the society.

Several major development agencies have recently tried to demonstrate that both 'developing' and 'developed' societies can be ranked according to common measures of progress and change such as the UN's Human Development Index (HDI). (Marcus Power, 2003) To achieve, four basic parameters were used for this purpose: income, life expectancy, human freedom, and educational level. However, how poverty and freedom are experienced and what is their meaning varies from place to place, making it difficult to formulate a universally accepted definition.

Apart from the contradictions that we encounter in the term sustainability, there are also contradictions in practical application. In many parts of the world, there is a rhetoric about sustainable development and probably an attempt for implementation. But more often, than not, serving one pillar of sustainability, translates into severely

affecting other. In Greece, such an interesting example has been the issue of gold mining in Halkidiki. In this case, we have a mining project to be carried out by the Canadian company Eldorado Gold. It started in 2012 and is estimated to last 27 years. On the one hand, there is the pretext of employment of miners, economic growth, and a solution to the unemployment challenges, that Greece was encountered with during the severe economic crisis. On the other hand, the project is a huge ecological disaster, a catastrophe of Mount Kakavos located in the area, extinction of wildlife and toxic waste for plants, animals, and humans.

The phenomenon, of course, does not concern only Greece. Instructive is also the example of Mozambique, one of the many countries that the pattern of their development carries contradictions in terms of sustainability. This is a country susceptible to environmental disasters. Only in 2019, it was hit by two cyclones that left behind hundreds of thousands of dead, while in the last twenty years it has been suffering from floods, cyclones, tropical storms. The United Nations recognizes Mozambique as one of the countries hardest hit by climate change and natural disasters. The Government of Mozambique has committed itself to the UN Sustainable Goal Agenda 2030. At the same time, however, Mozambique is becoming an emerging economy in the mining industry for hydrocarbons, liquefied natural gas, and more, in other words, a major contribution to climate change.

Such examples embody important paradoxical questions regarding sustainability and its implementation which deserve our attention.

#### **1.4 Criteria and conditions for the implementation of sustainable development**

The UN conference in Stockholm back in the 1972, was a milestone in the establishment of sustainable development. The results of the conference were a starting point for environmental action at global, European and regional level. At that time, certain principles were implemented, such as that of Environmental Law as well as an action plan for the protection of the environment, with 109 different

recommendations. Consequently, the United Nations Environment Program (UNEP) was later established by a decision of the UN General Assembly.

In April 1987 the report "Our Common Future" was published, also known as the "Brundtland Report", and in October of the same year, it was presented at the UN General Assembly. The report shows that the environment and the development process are interdependent. The environment is declining in the sense that it loses its affluence and diversity, and the planet does not renew its sources at rates that ensure life on it. To reverse this course, it is necessary to mobilize all the social, economic, and political factors that make up world society. In addition, the top priority is to take immediate joint action for the future of the planet, explicitly emphasizing as a process in which we will need *"new social, moral, scientific and ecological concepts, which should be determined by new conditions in the life of mankind today and in the future"*.(I.T. Frolov, 1986)

In addition, the Brundtland report highlights the need for institutionalization of the civil society, but also the emergence of a local level as a decision-making area for the management of local resources. In other words, this report presents sustainable development as a political system that ensures effective democracy and more effective and meaningful citizen participation and control in decision-making. Sustainable development is also characterized as an economic system that can create surplus and technical knowledge independently and permanently. Also, as a social system that provides for the fair redistribution of the economic surplus, faces social tensions and integrate marginalized citizens.

This is therefore a productive system that will respect the obligations to the environment and society and at the same time a technological system that will constantly search for new solutions. Finally, there is reference to an international framework that will tolerate and encourage sustainable standards in the economy and trade.

In conclusion, the Stockholm Conference emphasized the need for environmental protection. Later in Rio the idea of development is linked to natural ecosystems, touching on the economic and political parameters that further determine the level of environmental protection.

At the next Rio conference, two conventions were signed, one on climate change and the other on biodiversity. These texts were described as "hard law" texts. This is also the first time in the history of mankind that a convention deals with issues such as the climate system and biodiversity. The Rio conference also adopted three 'soft law' texts. An attempt is made to re-record the problems, seeking to find a solution by bridging environmental protection with development planning. These "soft law" texts are entitled "The Declaration of Principles for a Global Compact for the Management, Protection and Sustainable Development of Forests of All Types," "The United Nations Declaration on the Environment and Development," and "Agenda 21".

At this point, it is worthwhile to outline the key categories to which the principles of Agenda 21 fall, which is a general model of action by the international community in all areas of sustainable development.

The categories are summarized as follows, "Social and Economic dimensions", "Conservation and Management of Resources", "Strengthening the role of the Major Groups" and finally, "Means of Implementation". As highlighted by Agenda 21, the global community is facing significant challenges. It must mobilize all its forces and resources (economic, technological, human, etc.) to address the environmental problems that have arisen in environmentally responsible behaviors. Agenda 21 also identifies issues of particular importance for achieving sustainable development (United Nations 1994): involving citizens in addressing environmental challenges and promoting the participatory process, as a tool for raising public awareness and mobilizing environmental issues.

In the early 2000s, it became clear that all fears of an environmental catastrophe were close to reality. The reckless use of environmental resources and their effects are visible in the environment. The pursuit of the goal of sustainable development and the implementation of Agenda 21 has been, as it turns out in practice, a particularly difficult task for many countries, especially the developing ones. One of the main reasons for this difficulty was the inability to "transform the theory into practical application, a transition in which the technological, political and other constraints become apparent" (Matthews and Hammill, 2009)

But then, although some significant progress has been made in some areas, it is observed that the rate at which environmental problems and social differences are growing is greater than the rate at which sustainability is implemented. An important issue is the fact that strong dissatisfaction was expressed by developing countries. The reason has been that the developed countries do not fulfill their commitments to help the economically weaker countries. In addition, it became evident that the climate problems that had become apparent could not be resolved without the help of developed countries.

At the UN summit in Johannesburg at 2002, the international community acknowledged this weakness and underlined the critical social, economic, and environmental conditions.

To address the difficulties of implementing Agenda 21, an Action Plan (World Summit on Sustainable Development 2002) was adopted to accelerate the implementation of the objectives of Agenda 21, which encouraged states to pursue tangible results within 27 specific timetables. This plan extends the 2002 Agenda to several new issues, which were not sufficiently addressed at the Rio Conference in 1992, concerning globalization, the fight against poverty, the link between human rights and the natural environment, and the interconnection of the three pillars of sustainable development (Sartzetakis and Papandreou 2002). The latter is particularly important, as many examples indicate that the need to satisfy all three pillars and study these interdependencies in the context of sustainable development has not been fully understood (Drexhage and Murphy 2010).

### **1.5 Sustainable tourism development**

Sustainable tourism development is defined as the development in the tourism sector, which manages to support to the same degree, the economy, the society and the environment of tourism destinations, while creating conditions for continuous feedback. (Andriotis, 2005)

In order to talk about sustainable tourism development, we must ensure that both the natural and the built environment will form the basis of tourism policy planning.

In other words, sustainable tourism requires both the sustainable growth of tourism's contribution to the economy and society and the sustainable use of resources and the environment for the above purpose. Neither can be achieved without a sound understanding and proper management of tourism demand. (Zhenhua Liu, 2003)

It is important at this point to emphasize that sustainable tourism is not only about the natural environment but also the man-made and cultural environment.

In the implementation of sustainable tourism, both the economic development and the environmental sustainability of the local communities are achieved in combination. More in particular sustainable tourism refers to revitalization of the countryside, control of the tourism effects on the cultural heritage and local traditions, improvement of the local living conditions through adoption of special strategies to satisfy the present needs of the local community ensuring and at the same time better conditions for the future (Coccosis & Tsartas, 2001)

In an attempt to clarify sustainable tourism development, in 1995 in the World Tourism Organization (WTO) drafted some relevant principles in the form of a charter in Lanzarote:

- Tourism should be harmonized with the natural, cultural, and human environment, not exceeding the limits of carrying capacity.
- Tourism should take care of its impact on the cultural heritage and tradition of the local community.
- Tourism should be based on expanding opportunities for local communities by contributing to and maximizing the local economy.
- Tourism should contribute effectively to improving the quality of life of all and to the social and cultural enrichment of each destination.

In November 2015, the World Summit on Sustainable Tourism launches the documentation " World Charter for Sustainable Tourism +20 ".

This document, which is the reformulation of the First World Charter for Sustainable Tourism, incorporates the 17 Sustainable Development Goals that were adopted at

the United Nations Summit on Sustainable Development held in September 2015, and represents a great opportunity to firmly steer tourism towards an inclusive and sustainable model.

Among other issues, the following are mentioned:

- Tourism plays a vital role in paving the way towards a more peaceful planet and opens new possibilities to foster tourism as an instrument of peace and tolerance.
- Tourism must support conservation and biodiversity, because a healthy, properly functioning natural environment is a critical tourism resource and serves to heighten awareness of the intrinsic value of nature for us all.
- Tourism is a cross-cutting activity that can contribute to the fight against poverty, the protection of nature and the environment and the promotion of sustainable development.
- Tourism is one of the most promising drivers of growth for the world economy, especially in developing countries, and key to supporting emerging patterns in the transition to a green economy.
- Tourism should take advantage of opportunities provided by modern Information and Communication Technologies (ICTs) to build smart, responsible, creative, and intelligent tourism for the future. (World Charter for Sustainable Tourism +20, 2015)

To ensure the survival of tourism, we must aim for its positive development in relation to the environment. Tourism can help to prolong life on the planet in many ways. We must envision a tourism that will walk together with the environment and humans.

### **1.6 Local sustainable development**

Local development has been integrated into the concept of sustainability, a term originally coined in the 1970s (Amin, A., 1999) In particular it has been argued that an improvement in the standards of living and well-being of the current population to the detriment of the possibilities of future generations to improve their own standards is

a short-term development which, cannot be considered local development as such. Sustainable Local Development (SLD) must have the capacity to feedback and maintain itself over time, respecting the constraints presented by the surrounding natural environment. (Mebratu, D.,1998). The concept of SLD did not arise directly as such but rather as an aspect of local development in which the importance of the process of sustainability is portrayed. (Loppolo, G., et.al., 2016)

The importance of Sustainable Local Development nowadays is widely acknowledged today so, that, in 2016, the United Nations Development Programme (UNDP) launched the Sustainable Development Goals strategy for the local and regional level as a continuation of the Millennium Development Goals. (United Nations,2016)

As basic principles of local sustainability, the following are mentioned

- The precautionary principle, according to which, when there is a risk of serious and irreversible damage, lack of scientific certainty is not an excuse to postpone effective measures to prevent environmental degradation.
- The principle of intergenerational equality: Meeting the needs of current generations cannot be to the detriment of the ability of future generations to meet their own
- The principle of intragenerational equality
- The principle of subsidiarity, which dictates decision-making at the lowest appropriate level, preferably by the communities themselves or the level of public authorities closest to them
- The principle "The polluter pays" (Sapountzaki K., Hatchimihalis K., 2020)

In order to talk about local sustainable development, we need to make it clear that the local population needs is first priority. The solutions that arise as a response to a challenge or a problem, come through the local people themselves and their representative bodies.

Agenda 21 typically lists the actions that need to be taken at the local level to talk about local, sustainable development. Local Agenda 21 calls for Local Action 21, ie the progress of local communities on issues such as poverty, injustice, inequality, exclusion, unhealthy environment, insecurity. What is needed is pro-active action to create sustainable communities and cities.

In addition, Local Action 21 seeks to reduce the responsibility of cities for resource depletion and environmental degradation worldwide. The aim is to protect the world's common goods.

Finally, it aims at supplying the Municipalities with management tools that ensure the implementation of plans/programs, effective monitoring, and continuous progress. The objective is the consolidation of the Municipalities as managers of sustainability.

### **1.7 The importance of citizen participation for sustainability**

The importance of public participation in solving social and political problems is well known in many societies. The scientific community has been recognizing the usefulness of this contribution since the 1930s.

Significant emphasis was placed at that time on the search for methods and techniques by which scientists could gather and process information around the views of citizens, in order to enrich their knowledge and find more effective solutions. (Van Asselt and Rijkens-Klomp 2002).

In the early '70s, citizens' participation and the public's involvement in decision-making processes take an upward trend. At the same time, however, the first public allusions to protecting the environment are made. The point at which these two issues intersected was in 1972 in Stockholm, where the UN World Conference was organized. In the context of this conference, the emphasis was on the promotion of a new, environmentally, and socially friendly model of development, a new model for the development of the so-called different development. (Cadwell 1984, Dashman 1988). Through this endeavor, attempts are being made to lay the groundwork for the orientation of political decision-making centers on a global scale.

The Conference emphasizes the importance of the human rights to the environment through a text of 26 principles.

The aim of informing the citizens is to raise their awareness so as to develop responsible attitudes towards the modern environmental problems. To this end, the need is emphasized to mobilize all possible means to inform citizens and help them reconsider their behavior patterns that impact the environment (Stockholm Conference, 19th Authority).

Proper information of the citizens requires access of everyone to information and transparency, in order to have the most valid results possible. Humans as social and mimetic beings, by adopting environmentally friendly behaviors, will influence each other until the environmentally friendly behavior becomes a norm and a social consciousness.

[..] Education on environmental issues for all population groups, with an emphasis on the less privileged, is particularly important for raising awareness and developing environmentally responsible behaviors of individuals, businesses, and communities, as well as protecting and improving the environment. (Sohn L., 1973)

Eight years later, in the 1980 exhibition "Many voices - one world", the importance of public participation in environmental issues is emphasized even more. In addition, the role of informed citizens as a driver of change through their participation in the decision-making process is emphasized.

Finally, there is the need to increase the interaction between all the individual groups in society, which will result in a change in the power relations that influence decision-making processes at the local level, thus ensuring the right of the least powerful groups to intervene. (Renn et al., 1993; McGuirk 2001; Kanji & Greenwood 2001)

The more aware of the environmental crisis the citizens are, the easier it is to achieve mentalities that respect and take it into account in their every decision.

After the concept of sustainable development was formulated in the Brundtland Report in mid-1980's, the global landscape of policies for development and the environment is changing. Things are becoming more concrete now, sustainable development is taking on a new dimension, and it is being presented as an achievable goal, which should be placed at the highest priority of all countries.

In addition to all that has been said above about the Brundtland report, it is worth noting at this point that particular emphasis is placed on the human being and the promotion of the common collective interest, with participatory processes being the path to reach this goal. Achieving this goal requires the active support of all citizens and at the same time coordinated political action.

Below are some excerpts from articles in the report, through which the promotion of the concept of equality and strengthening of vulnerable groups is evident.

[...] Environmental pressures and unbalanced growth are expected to intensify social tensions. In this context, it can be considered that the distribution of power between different groups and the impact it has on society touch the heart of modern environmental and development challenges. Addressing these challenges requires new approaches, which should include, among other things, social development programs aimed at improving the position of women in society, protecting socially vulnerable groups, and promoting participation in local decision-making scale. (Brundtland Report 1987: 33)

The solutions or answers to a development problem are not known, but the approach to their search is important, which should include all those interested, affected or benefited from these decisions (Brundtland Report 1987: 49)

The same report highlights the need for institutionalization of the public in the decision-making process and the emergence of the local level as a decision-making field for the management of local resources. In addition, the need to strengthen local democracy, promote citizens' initiatives, and strengthen them through disseminating knowledge and information, is emphasized to make their participation more substantial. Finally, the need is underlined for free access to information and the provision of technical support to citizens for their more effective involvement, especially in large-scale projects, where the different views that can be expressed by the public can shed light on their significant dimensions. Also very important for the present work is the point that refers to the need for mandatory participation of citizens in the decision-making process for projects that are expected to have a significant impact on the environment.

The Rio conference held in 1992 was also an important milestone in elevating the importance of citizen participation. In the published report, the concepts of participation, responsibility, and cooperation are defined as key concepts for the realization of the goals set by sustainable development. More specifically, some remarks regarding the promotion of the participatory process and cooperation are listed below.

All states and citizens must work together to eradicate poverty, as a prerequisite for sustainable development, with the aim of reducing inequalities in living standards and better meeting the needs of all people. (Rio Declaration, 1992: 5th principle)

States must participate harmoniously by developing partnerships and partnerships to preserve, protect and restore the quality of ecosystems, where all states assume their responsibility based on their contribution to environmental degradation. *"The most developed countries recognize the responsibility they have in the global community to pursue the goal of sustainable development, based on the pressures exerted on the environment by their societies, but also on the technologies and financial resources at their disposal."* (Rio Declaration, 1992: 5<sup>th</sup> principle)

Environmental issues are best addressed through the involvement of all stakeholders in the respective decision-making levels. At a national level, everyone should have adequate access to environmental information provided by public authorities [...] and the ability to participate in decision-making processes. The 24 states must facilitate and encourage public awareness and participation by making information widely available. (Rio Declaration, 1992: 5<sup>th</sup> principle)

"Indigenous peoples and their communities can play a vital role in environmental protection and development, based on their empirical knowledge and traditional practices. States must recognize and harness the potential of these groups to contribute to the common cause and to support the preservation of their identity, culture and interests, while enhancing their effective involvement in the pursuit of the goal of sustainable development. " (Rio Declaration, 1992: 5<sup>th</sup> principle)

In addition, Agenda 21 states that to empower and make a significant contribution to the sustainability of local communities, it is necessary to organize individual citizen groups, such as women's groups or non-governmental organizations, to maintain a certain direction at the local level. Local authorities can then utilize the groups appropriately and provide them with the necessary knowledge for the concept and implementation of sustainable development.

In this context, the phrase "think global, act locally" is formulated, seeking action on a micro-scale, at a local level, but aiming to achieve a global goal. At this point, the need for action by local communities is articulated, which ultimately seems to play the most important role in the global puzzle of sustainability.

*"Sustainable development is a necessity of global interest [...] and the Local Agenda 21 is an important framework for achieving it locally and globally" (Cotter and Hannan 1999)*

The following directions are also mentioned in Agenda 21:

- Each local authority should launch a dialogue with citizens, businesses, local actors, etc.
- Through consultation processes, local authorities should make use of the information and knowledge gathered from the local community, in order to more effectively plan and formulate a policy to pursue the goal of sustainable development, as well as to ensure consensus among citizens. .
- The consultation process can be a platform for dialogue with the local community, raising public awareness of sustainable development issues.

(United Nations 1992, ch. 28, Article 3)

Over the years, in the early 00 'the world community realizes that the realization of a model of sustainable development is very demanding and requires solutions to be found on many levels in order to achieve results. At the same time, the environmental problems were increasing and had obvious effects. Following the recognition of this reality, the Rio Summit in 2002 seeks to implement an Action Plan - World Summit on

Sustainable Development - which encouraged states to pursue tangible results within a specific timetable. This plan includes additional issues related to the fight against poverty, globalization, human rights in relation to nature, the interconnection of the three pillars of sustainable development (Sartzetakis and Papandreou 2002)

Twenty years after the Rio Conference, a news conference is being held in 2012 to record the progress that has been made and to study this model of development in the present time. The results are not encouraging. The Committee notes that many of the objectives set in 1992 had not yet been achieved. The issue of meeting human needs and accessing a better life seems to strongly oppose the protection of the environment. Growth preserves the scepters of the present while the environment is severely and irreparably affected. Significant population growth is expected by 2050, which undermines the survival of the environment. The economic crises that several developed countries have experienced and the desire for rapid growth often position the environment as a low priority target. Although sustainability started with the best of intentions and gave hope for both humanity and the continuation of life on the planet, it ultimately proved to be an extremely difficult task. This has led several states and many individuals to withdraw from this ultimate goal. The environment is often violated in the name of development or not taken seriously. The examples of the above assumption are thousands, and the future of our planet is ominous.

## **2. The island of Paros**

### **1. The profile of the island**

#### **1.1. The Social Profile**

Paros is an island in the Cyclades group, west of Naxos, from which it is separated by a narrow canal about 3 miles wide. It covers an area of 195 square kilometers, and the length of its shores is 111 kilometers.

The Municipalities of Paros and Antiparos constitute the Regional Unit of Paros. With the implementation of the new administrative Reform "Kallikratis" (according to Law 3852 [Government Gazette 87 / A / 7.6.2010] for the "the new architecture of Local Government and Decentralized Administration - Program Kallikratis" from 2011, I), The study area belongs to the Municipality of Paros.

Thus, the Municipality of Paros consists of the homonymous Municipal Community, the Municipal Community of Naoussa, and the Local Communities of Agkeria, Archilochos, Kostos, Lefkes, and Marpissa.

The settlement structure of the island is concentric with a concentration of 45% of the population in Parikia, where all the administrative, social, and cultural activities of the island are concentrated. Naoussa, the second most important settlement is considered competitive only during the summer season. The rest of the settlements on the island are small, although they have shown some growth due to tourism in recent years. (Gaitanis, 2007)

The following Table presents the size and the evolution of the population of Paros, according to the data derived by the Hellenic Statistical Authority censuses of the years 1991 2001, and 2011.

Region	Population		
	1991	2001	2011
Municipality of Paros	10.410	12.514	14.890
Paros	3.838	5.682	6.023
Naoussa	2.110	2.955	3.184
Lefkes	872	724	855
Arhilohos	801	886	1.065
Marpissa	813	959	1.019

Kostos	365	364	440
Agkairia	792	944	1.108

Table 1. Table of population from 1991 to 2011, (elstat,2021)

The data in this table indicates that:

The largest concentration of population is presented in the Municipality of Paros and the Communities of Naoussa, Lefkes, Archilochos, Marpissa, Kostos and Agkairia.

The seasonal population includes Greeks and foreign visitors to the island living in rented accommodation, seasonal visitors owning a holiday home, and natives relocated to other parts of the country that locals seasonally host. Figures from 2002 report 120,000 people for the period 1-15 August and declared legal beds about 130,000 (Gaitanis, 2007).

The highest population load occurs in the period from May to October, when most tourist arrivals take place, with peak figures appearing in August. The tourist season for Paros is considered to last from May to October. The peak season is from middle of July to the end of August. The touristic traffic before July and after August is considered to be lower.

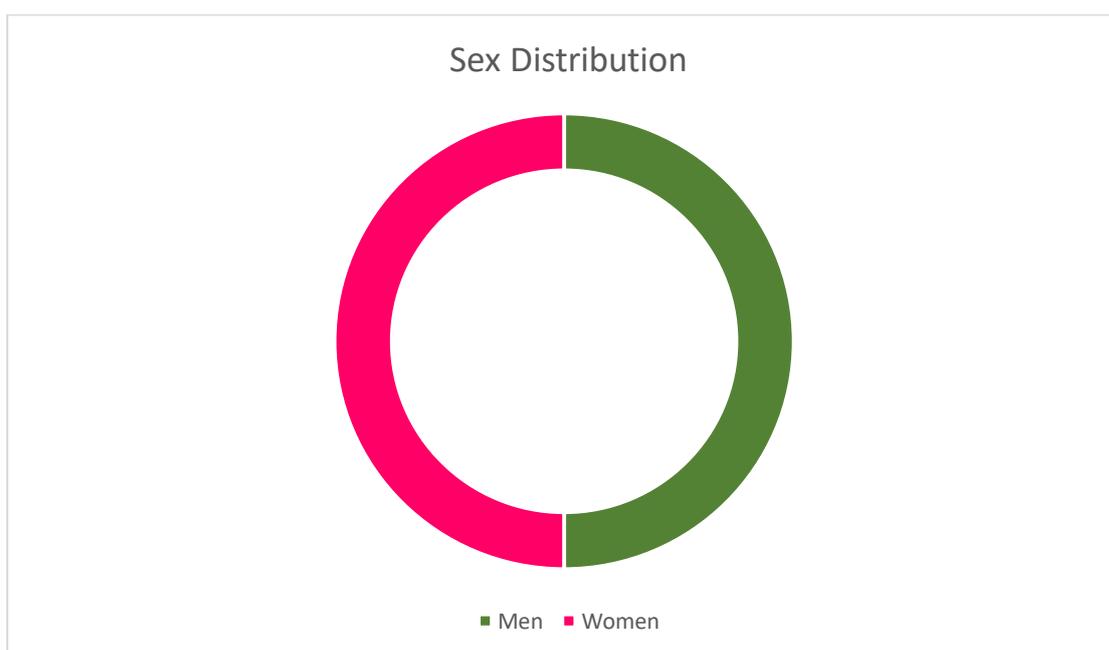


Figure 2. Source: Elstat 2011

Figure 3 illustrating the population composition of the municipality by sex, indicates that both male and female population constitutes 50%. In details, in 2011 males were 7,464 and females were 7,461.

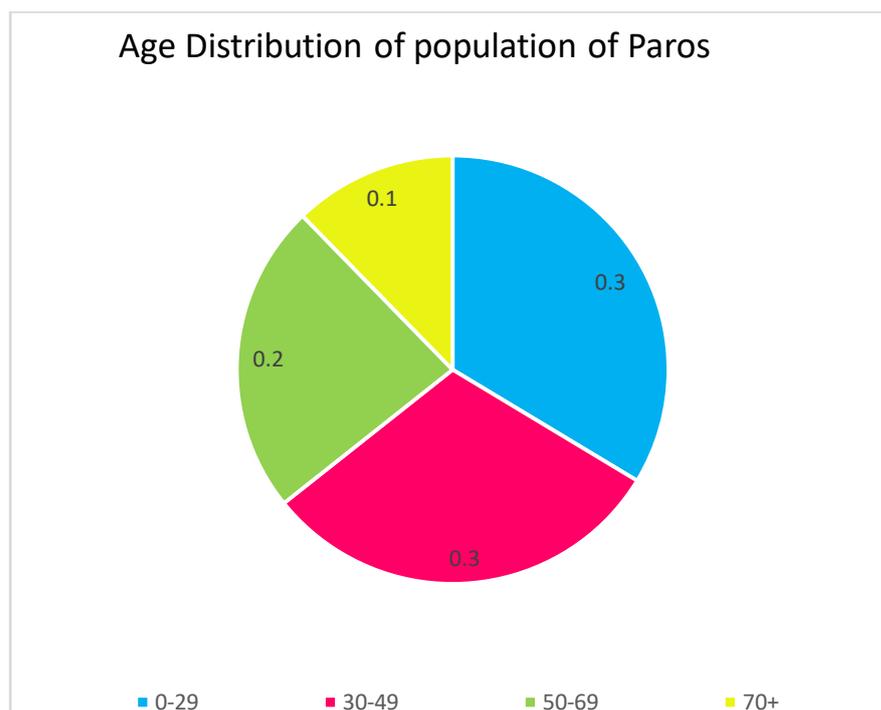


Figure 3. Source: Elstat 2011

From the above indicators, it appears that the population in Paros is relatively (to the national level) young and productive ages predominate. The most populous age group in the municipality is the group between 50-69 years and the second populous is the group between 40 - 54 years, i.e., the most important parts of the production base.

Educational level	Total	Males	Females
Born before 1/1/2005	1,063	541	522

They did not finish primary school but they know how to read and write/ they do not know how to read and write	1,897	909	988
Elementary school graduate	3,740	1,883	1,857
Graduate junior high school & technical school	2,393	1,369	1,024
Graduate high school or technical high school	3,447	1,632	1,815
Graduate post-secondary school	645	272	373
Graduate University- Masters- PhD	1,741	859	882
Total	14,926	7,465	7,461

Table 2. Educational Distribution of the population of Paros, Source: ELSTAT, 2011

The educational level appears quite high, as the 39% has graduated either junior high school or high school. It seems that as years go by more and more people continue their academic studies. The education level of the inhabitants of Paros, appears quite similar to both men and women. The gap between men and women is not that big as it used to be the previous years. Tourism is growing a lot on Paros island and it is both genders that work actively in it.

### 2.1.2 The Economic Profile

#### Primary Sector

According to the data of OPEKEPE 2018, on the total of 24,367.8 acres of cultivated areas, 1,684.9 acres are irrigated. There are, 11,844.9 acres of pastures and 101.0 acres of irrigated areas are reported. Regarding the categories of cultivated areas, Plows hold an exceptional percentage ~ 70%, followed by Olive groves (16%) and Vineyards (12%), while Vegetables and Arboriculture represent a percentage of <1%.

In addition to the primary sector, the main agricultural processing units

- 2 Wineries
- 2 cheese farms in Parikia and Tzanes

The other industrial units on the island concern

- 2 concrete production units in the area of Marathi and Ysterni
- 1 stone cutting unit in Marathi, there are also 2 quarries, one in the area of Kampi and another one in the area of Marathi

It is no by coincidence that Paros is one of the most famous tourist destinations and a favorite choice for many tourists from all over the world. It has endless beaches, with easy access from anywhere on the island, unique architecture that is still preserved, despite the great tourist development and many opportunities for entertainment. The dominant economic activity of the island is tourism. There is a plethora of beds accommodating thousands of tourists each summer and a wide variety of tourist facilities in terms of size, type and the quality of supplied services. Regarding the labor market, according to the statistics of the 2001 census, the following are noted:

Economically active population				economically inactive population
	Employed	Unemployed		
		Total	“Young” people	
5.227	4.712	515	158	5.712

*Table 3. Economically active population, Source: Elstat, 2001*

In more detail:

- In 2001, the economically active population as mentioned above reached 5,227 people, approximately 48% of the permanent population. The unemployment rate is approximately 9.8% of the economically active population, i.e., 515 people, of which 158 (31% of the total unemployed) are young.
- The economically inactive population corresponds to 52% of the total.
- In a total of 4,712 employed citizens, 70% are men, while only 30% are women.

### 2.1.3 Tourism Activities

More specifically, with regard to tourism the sector is growing rapidly in the island since 2000. 68% of the population is employed in the tourism sector (Insete, 2020) There are more than 145 hotels on the island, while in addition to the hotels, there are also rooms for rent or houses and villas for rent. In the last 5 years the reconstruction of the island has reached the heights. The phenomenon did not stop growing even in the midst of the Covid-19 pandemic.

### 2.1. Spatial planning issues

The spatial plan of Paros, published on May 2 , 2012, evidences the special emphasis that has been placed on the protection of the environment and coastal areas, in an effort to preserve the natural heritage and beauty of the insular landscape. In addition, new construction projects have to satisfy strict building regulations to preserve the Cycladic architectural heritage. In the General Urban Plan of the island, the Special Protection Areas are underlined, while important for the coastal area is that it tries to locate, delimit, and protect the sea meadows. Around the island inland there is a zone called "Area of Control and Restriction of Building 1 - Wider Coastal Zone".

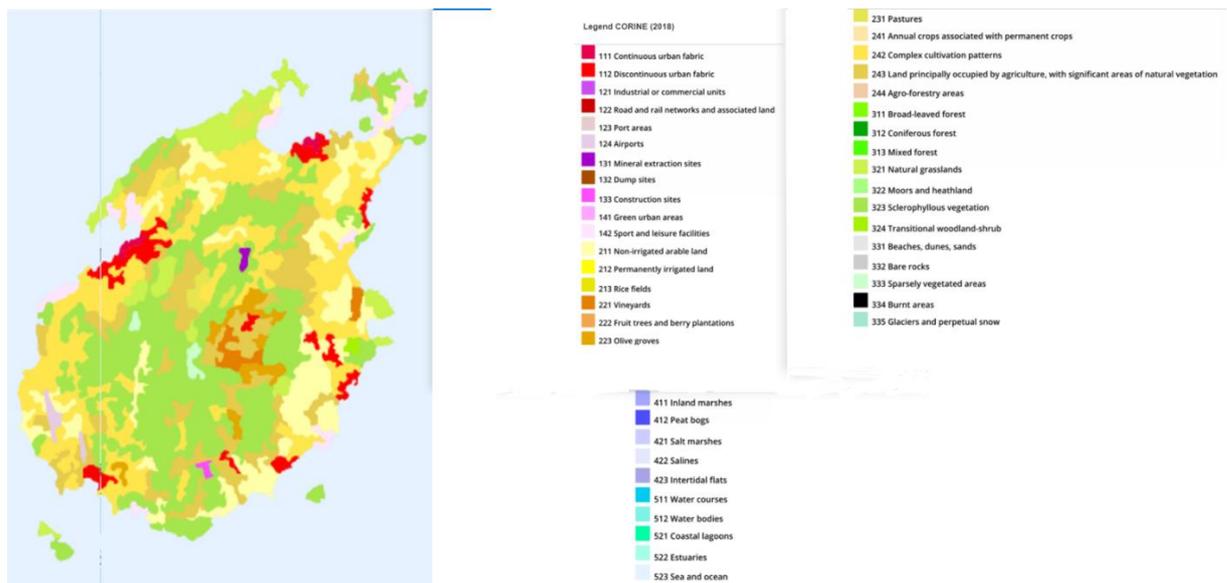


Fig.4 Corine Land Cover, Source: WWF, 2018 <sup>1</sup>

The following zones are provided by the General Urban Plan of Paros.

I. Special Protection Areas (SPAs):

- 1) Natura 2000 Network Areas
- 2) Coastal Wetlands
- 3) Wildlife Shelters
- 4) Forest and Reforestation Areas
- 5) Nature Protection (central mountainous part)
- 6) Navigation Routes (zones on either side of the navigation routes)
- 7) Landscape Protection (visible natural landscape from the sea access axis and the western part of the main axis) - Landscapes of Special Natural Beauty
- 8) Posidonia Oceanica Sea Meadows

<sup>1</sup> Land cover in Greece 2018, according to the European Union CORINE program. Divided into 40 different categories

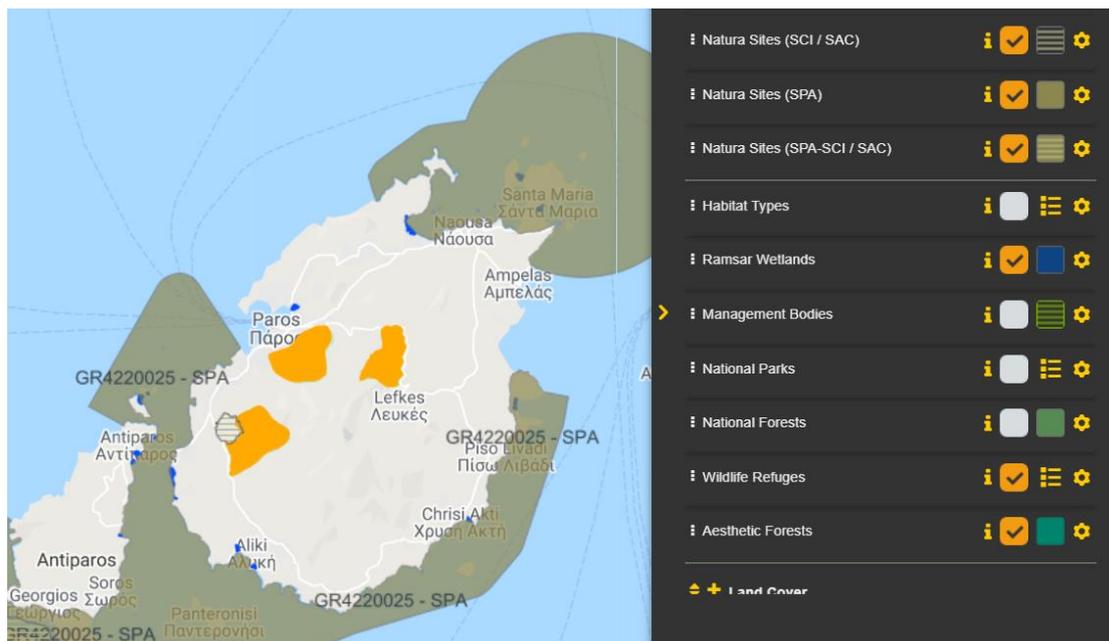


Fig. 5. Map of SPAs, wetlands and wildlife refuges of Paros island, Source: WWF Hellas, Oikoskopio 2018

On the map above SPAs (in grey color) exist in the bigger part of Paros' coastline, while wetlands (in bright blue color) are marked sporadically on the perimeter of the island. The wildlife refuges (in orange color) are marked in three different spots on the mainland of Paros'.

The port of the island is Parikia, which is located in the northwestern part of the island. The port of Parikia is the main center of trade, administration and services. The port operates as the main sea connection with Piraeus, the major port of the country, as well as other minor ports. In total, there are five settlements on the island: Parikia, Naoussa, Lefkes & Kostos, Marpissa-Marmara-Prodromos and Agkeria & Alyki. The connection of these units and other smaller settlements is achieved through the road network of the island. Only the settlements of Parikia and Naoussa have an approved Road Plan based on an urban study. For the settlement of Parikia alone, there is a General Urban Plan since 1990.

### 2.1.5 Social and Technical Infrastructure

There are 7 primary schools, 3 junior high schools, 2 high schools and, 1 technical high school on the island. The gymnasiums and the lyceum also serve students of Antiparos also, as there is not any secondary school in Antiparos. In addition, Parikia hosts an important public health center. Furthermore, there are 6 regional clinics on the island and a plethora of local private clinics.

As far as the transportation network is concerned, the island is connected to the mainland, both by ferry and by air. Ferry services operate daily connecting Paros with the port of Piraeus. In recent years, a ferry connection with Rafina and Lavrio (in Attica region) has been established. Apart from the aforementioned ports, Paros is connected also with the other islands of the Cyclades group, the Dodecanese, the eastern Aegean, and Crete. The passenger population disembarking on the island of Paros has increased by 30% between the five years 2013-2018.

Year	Cruise ships	Passengers
2013	88	7.071
2015	25	3.679
2017	16	3.916
2018	17	2.476

Table 4. Cruise ship traffic, Source: Insete 2018

Year	Arrivals	Departures	Total
2014	700.643	698.915	1.399.558
2016	708.427	729.652	1.438.079
2018	924.105	908.169	1.832.274

Table 5. Tourist traffic for the port of Paros, Source: Insete 2018

As for the airlines, until 2016, the airport was located in Aliko and the existing airstrip could serve only DORNIER helicopters, and short-range, and low capacity planes of 18 seats of Olympic Airlines.

In July 2016, the new airport was inaugurated near Pounta, in the western part of the island.

The operation of the new airport has given new impetus to tourism since the number of passengers has increased dramatically.

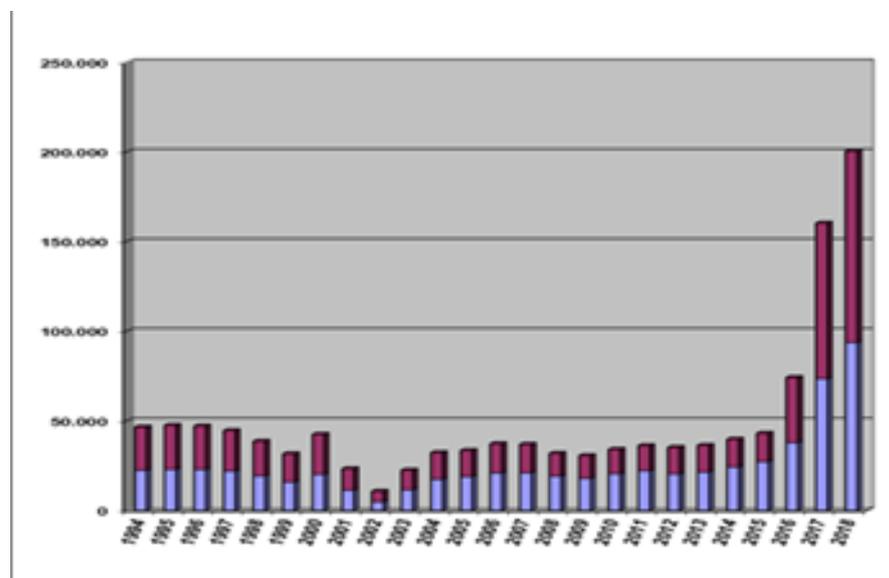


Table 6: *Inbound flights at Paros 1994-2018*

Source: Civil Aviation Authority, 2018

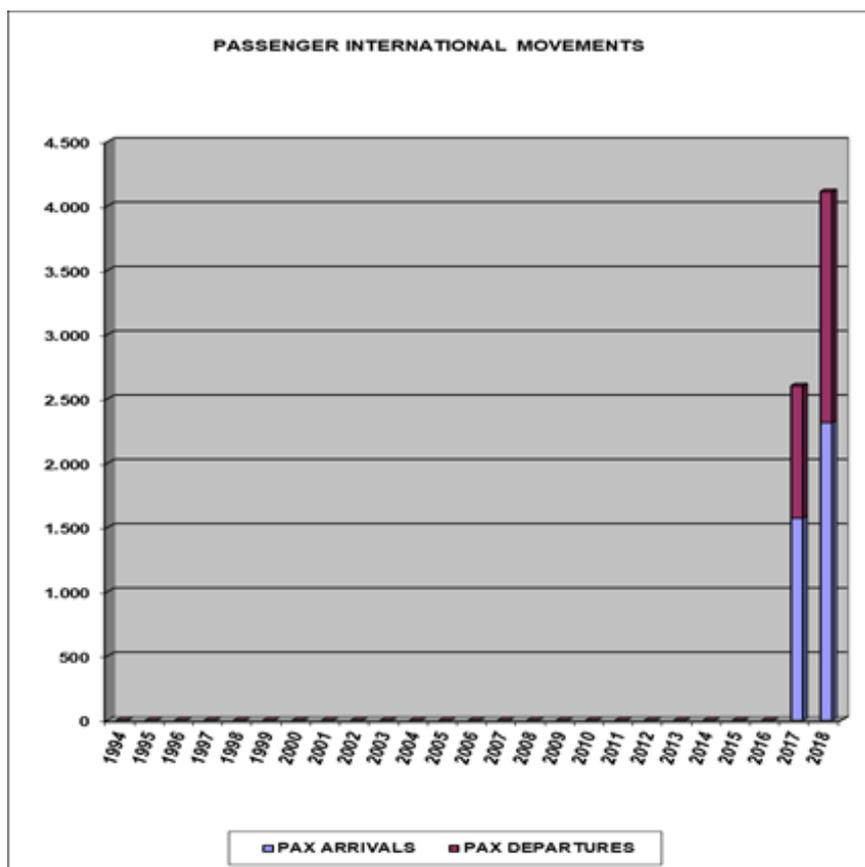


Table 7: International movements at Paros airport 2017-2018  
Source: Civil Aviation Authority, 2018

Olympic Airways and SkyExpress connect daily the island with Athens and Thessaloniki, and some international charter flights also take place during the summer months. The domestic arrivals for 2019 amounted to 103,532 passengers, presenting an increase of 11.6% / + 11.000 passengers compared to the previous year. That is the highest growth rate in all the Cyclades, comparing to the islands that have airports (INSETE, 2020). Also, the number of passengers from international flights more than doubled in the period 2017-2018: from 1,500 to 3,340.

Road transportation is performed by local buses, taxis, private minibuses, and private vehicles. The road network is asphalted-, and fully functional (though of low quality signage), and runs around the perimeter of the island. The network connects the largest settlements and tourist-developed villages.

In addition to the main road network, there are smaller roads, some paved and other dirt roads, connecting villages or beaches or even more remote areas, to the main road network.

### 2.1.7 Environmental Characteristics

For the flora of the island, we know that it includes 843 taxa of Pteridophytes and Spermatophytes. From the hitherto known data for the flora of Paros, it appears that 61 species and subspecies of plants are endemic, rare, endangered, or protected. Among them, there are 8 endemic taxa of the Cyclades (*Allium luteolum*, *Campanula heterophylla*, *Centaurea oliveriana*, *Centaurea laconica* subsp. *Lineariloba*, *Muscari cycladicum* subsp. *Subsessilis*, *Muscari pulchellum* subsp. *Clepsydroides*, *Nigella degenii*).

In general, sand-loving plant communities are found in the vegetation of Paros, which contribute to retaining of the sand and stabilizing the coastline. In addition to the sand of the coastlines, the phrygana stabilizes even more stable sandy soils in the terrestrial part of the island. In addition, there are rock-loving plant communities, which are characterized by their formation in rocky places of high salinity, where soil typically becomes hostile to most plants.

The flora of Paros includes the common species found in the rest of the Cyclades. The natural vegetation of Paros is classified in the warm-Mediterranean formations of the Eastern Mediterranean and has grass-like form. Today in Paros the following species of flora are found (Gaitanis, 2007):

Locusts (*Ceratonia siliqua*) Holly (*Quercus ciccifera*) Walnut (*Tamarix* sp.) Cedar (*Juniperus macrocarpa*) Wild cypress (*Juniperus phoenicea*) Pine (*Pistacia lentiscus*) Wild (*Olea europea*) Thymus capitatus Afana (*Genista acanthoclada*)

Most of the natural vegetation of Paros is degraded due to the impact of grazing, construction activity, and fires. On the other hand, there is an expansion of the deadly vegetation due to the abandonment of the crops in the hills of the island. Herbaceous grassland vegetation has a frequent presence, mainly in degraded land.

Invertebrates and vertebrates-, and small mammals are typically mentioned for the fauna of the island. The main mammals are the hare (*Lepus europeus*), the wild rabbit (*Oryctolagus cuniculus*), and the ferret (*Mustela putorius*). A typical bird is the partridge (*Alectoris chukar*). Also, sprats, turtledoves and several aquatic ones, exist in the area. In addition, diurnal butterflies, and nocturnal butterflies, as well as lizards, house geckos, water snakes, water turtles and land turtles which will be discussed below.

In addition, the predators and sea creatures of the island are of interest. Eagles, hawks, Aegean gulls are all found on the island, while in the bays and caves, seals and sea turtles live and reproduce. In addition, dolphins are very often observed from various shores of Paros.

#### 2.1.8 Protected Areas

As mentioned in the paragraph referring to the Spatial Planning issues, many parts of the island have been designated as protected, due to the fauna or flora observed in these areas. In addition, the island of Paros has been characterized as a "Place of Special Natural Beauty that needs State Protection."

More specifically, areas protected under the Natura 2000 network are:

The area "Butterflies" which is located in the west part of Paros, in the area of the Monastery of Christ. The area has been registered in the European list as the habitat of the Valley of Butterflies.

Furthermore, Paros Island & South Antiparos: the area extends to the northern and eastern parts of Paros Island and includes various scattered areas of Paros, islets in its

southern part (Despotiko and Round), as well as southern Antiparos. These islets are rocky and covered with phrygana, dense macchia vegetation. The area's ecological importance consists of the hosting of a number of migratory birds, and predators' reproduction. The most important species are *Falco eleonarae*, *Falco peregrinus* and *Larus audouinii*.

Finally, the area of Molos, in the eastern part of the island. In this area, is the wetland system member of the Molos of 6 acres, which is included in the list of Low Island Wetlands with code PAR004<sup>2</sup>. Characteristically mentioned is the "Approval of the list of Small Island Wetlands and determination of conditions and restrictions for the protection and promotion of the Small Coastal Wetlands included in it".

Molos wetland is contributing in a positive way to birds' immigration. Paros' wetlands are surrounded by buildings, roads etc. If the construction around the wetland will stop immediately, it will not cause any severe harm. In any other case, it is not known what will happen. (Katsadorakis & Paragmian, 2007)

## **2.2 The existing Port infrastructure**

### **2.2.1 Loads served**

Although smaller ports are in operation, the main passenger and goods volume are served through the main port of the island, Parikia.

The bay of Parikia is appropriate owing to its natural protection. Today, the port is accessed through the urban fabric and street network of the city, which is usually overloaded in July and August, due to the increased then tourist activity.

The port is principally a passenger port. However, it serves besides transportation of goods in bulk and on pallets such as barley dust, gravel, and other building materials, wine, and oil. Fishing boats, tourist boats and pleasure boats are served also.

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<sup>2</sup>Government Gazette AAP 229 / 19.06.2012

The arrivals of merchant ships in the port of Parikia range from about 300 to about 500 from 1993 to 2012. With a maximum in 2006, 513 arrivals. This is followed by a period of decline with fluctuations that in 2012 numbered about 400 arrivals. The average monthly number of arrivals between 2005-2012 is 36 ships per month. The main loading and unloading materials are sand, building materials and fuels. Their size drops from more than 500,000 tons in 2007 to less than 200,000 tons in 2012, a drop due to the economic crisis. (Preliminary Determination of Environmental Requirements, 2014)

### 2.2.2 Problems in port activity

The loading and unloading of goods in the port of Parikia creates the following problems:

- Serious malfunctions occur due to complete lack of quays and access.
- The environment of Parikia is burdened during the loading of bulk materials e.g. marble-dust.
- The dangers of unloading fuel are faced by adjacent boats and in the surrounding residential areas
- The neighborhood is aesthetically burdened, as it is essentially the port of entry of holiday-makers to the island.

The above, as well as years of persistence of the municipality of Paros, the need arises to create a new commercial port on the island. The impending reasons for this need are both safety and functionality, however based on the Preliminary Determination of Environmental Requirements from 2014, it would seem that the necessity is also environmental.

However, at this point, it is of utmost importance to mention that following a decision by the municipal council of Paros (164/2007 (7.5.2007)), since 2008 heavy vehicles transporting inert materials for export from Paros we banned from entering and circulating in Parikia from June 1<sup>st</sup> to September 30<sup>th</sup>.

### **3. The New infrastructure proposal - Transfer of the commercial part of the port to the area of Kaminaki**

#### **3.1. History of the area**

The Bay of Kaminaki is isolated as the area where Public Authorities want to establish the new commercial port due to the current overuse of the central port of the island. The Kaminaki area is located between the bays of Piso Livadi and Molos. It is about 400 meters north of the first, and about 1.5 km away from the second. This is an open position with SE orientation. The area is featured by a deep seabed and rocky coast with a relatively strong relief. The coast has relatively large slopes, from an approximately flat surface of 15 meters above the sea level.

In the specific area 'Kaminaki' the landscape is relatively virgin. The buildings are few and the human activity is almost invisible.

However, the bay is considered degraded because a biological treatment plant and a sewer have been constructed in the area since 1995.

'Kaminaki' beach is accessible from Piso Livadi, through the beach of the pier, by means of narrow dirt roads with closed turns.

#### **3.2. Environmental characteristics of the 'Kaminaki' area**

The area designated for the new infrastructure, the commercial port, is located within the Special Protection Zone (SPZ) with code "GR4220025 - Paros Islands and South Antiparos" which is part of the Natura 2000 area. Also, at a distance of about 1.5 km north of the project area in the area of Molos, there is the wetland system of Molos

swamp with an area of 6 acres, which is included in the list of Small Island wetlands with code PAR004, (Government Gazette AAP 229 / 19.06. 2012, P.D. "Approval of the list of Small Island Wetlands. Determination of conditions and restrictions for the protection and promotion of the Small Coastal Wetlands included in it". The species below are found in the area of Kaminaki:

- Falco peregrinus (belongs to the Falcons)<sup>3</sup>
- Larus audouinii (belongs to the seabirds) <sup>4</sup>
- Larus cachinnans (belongs to the Gulls)<sup>5</sup>

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<sup>3</sup>Falco peregrinus - Falcons Falcons use open land, such as meadows, meadows and farmland, to feed. Rocky slopes are their main habitat, with some species preferring coastal rock formations (Falco eleonora, partly Falco peregrinus). A special case is the Kestrel (Falco naumanni), which nests in colonies almost exclusively in old buildings. Falcons feed mainly on small birds and mammals, as well as insects. The intensification of agriculture, housing development, the abandonment of traditional land uses to degrade the habitats of breeding and feeding of hawks. Pesticides, harassment and harassment are also significant threats to this species.

<sup>4</sup>Larus audouinii - Seabirds This category includes 5 species of birds, which are directly related to the marine environment. These species breed on steep rocky shores in islands and islets of the Aegean and Ionian Seas. With the exception of Phalarocorax (Phalacrocorax aristotelis), the rest of the species reproduce in colonies. All seabirds are exclusively fish-eating. Tourism infrastructure in coastal and insular areas degrades seabird breeding habitats, while the inconvenience caused by yachts in remote breeding colonies is significant. Also, marine pollution, such as e.g. Oil spills can both degrade the habitat and cause the immediate killing of these species. A special threat to seabirds is their accidental entrapment in fishing gear (longlines, nets) and therefore the extent of this problem in the Greek seas must be thoroughly investigated. Also, the presence of rats or competing species, such as Asioglaroi and Kourounes, can significantly reduce reproductive success.

<sup>5</sup>Larus cachinnans - Gulls This category includes species of gulls and terns. These are species that always breed near water, especially in coastal environments. The main habitats for reproduction and feeding include lagoons, stagnant fresh and brackish water, salt marshes, sea conditions, etc. They breed in colonies and feed mainly on fish. The main threats to seagulls are related to the degradation-destruction of breeding and feeding habitats. Thus, wetland drainage, river or shore alluvium, dam construction, and other land improvement works cause problems for these species. Human or pet nuisance in breeding colonies is also a significant problem.



Figure 6. Source: Alkyoni,2021

Additionally, in the area of Kaminaki, dead dolphins washed ashore (2 animals, in less than a year) have been found by residents of the area. The cause of death remains unknown, as they suffered no external injuries. However, it is known that the channel of Paronaxia (between Paros and Naxos island) is a passage for the striped dolphin (*Stenella coeruleoalba*, Meyen, 1833) and possibly other marine mammals.



Figure 7. Dead dolphin Source: author's elaboration

### 3.3. The institutional/regulatory regime of the area 'Kaminaki'

Both [EU \(Directive 2011/92 / EU\)](#) and [national legislation](#) (Law 4014/2011, A'209) provide that projects and / or activities that may impact on the environment are subject to a prior environmental impact assessment procedure (environmental permitting process). The port projects also fall under the categories provided by the legislation (ministerial decision of Hellenic Ministry of Environment and Energy no. 37674/2016, B'2471, Annex III, group 3rd port projects). The law distinguishes between categories A (A1 and A2) and B depending on the severity of the environmental impacts. For category A, the issuance of a decision approving environmental conditions is required (by the Hellenic Ministry of Environment and Energy for category A1 projects and by the relevant Decentralized Administration for category A2), following the preparation of a previous Environmental Impact Study (EIS). For the category B projects of lower environmental impacts, a declaration by the contractor of the project is sufficient. In case the project is located within the area of the European ecological network Natura 2000 (for both category A and B projects) a special study is required which will examine the impact of the project on the protected objects (Special Ecological Assessment).

The project in question entitled "Program Plan of a New Commercial Port at Kaminaki, Municipality of Paros", falls under category A2 and is located within the Natura area 2000 with code GR4220025 "Paros Islands and South Antiparos", which has been characterized as a "Special Protection Zone".

The first stage of Preliminary Determination of Environmental Preconditions has taken place in 2014. After that, the municipality of Paros, has approved the final receipt of the file. On the 15<sup>th</sup> of May in 2018, the Decentralized Administration of the Aegean gave a positive opinion on the project, which is valid until 2023.

In the public procurement file, which took place in October of 2018, it mentioned that *"For the design of the projects, an Environmental Impact Study will be prepared according to the requirements of Law 4014/2011, as amended and in force today . In addition, the preparation of an Ecological Assessment Study will be required as a supporting study, since the project is included in a habitat in the Natura area, (in accordance with the specifications of Annex 3.2 of the HR. 170225 / 20.01.2014, Government Gazette 135 / B / 27.01.2014) as amended and in force today."* (Public procurement dossier,2018)

According to a directive of the European Parliament and of the Council<sup>6</sup> of 26 May 2003, the participation of the interested public is considered necessary through the submission of comments on the EIS and the SEA of the project (public consultation process, 2003)<sup>6</sup>. However, this process has not taken place yet.

### **3.4. The wider Ecological and natural Environment**

The research area belongs to the east side of Paros. The nearby settlement of Marpissa is built on a hill and it is located 17 km away from the port of Parikia. It is the main settlement of a rich and touristic area and it is been characterized as a traditional settlement. Next to Kaminaki bay, is located the port of Piso Livadi, a dynamic settlement, with dozens of rooms to let, hotels and restaurants. It is picturesque and it is connected with the surrounding islands. Piso Livadi, the third most visited destination of Paros, it is characterized by tranquility while attracting mainly tourist families.

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<sup>6</sup> [Directive 2003/35/EC](#)

At a distance of 1.5 km from the point of interest, the bay 'Kaminaki', is the bay of Molos. Molos marsh is located in the northern part of the beach.<sup>7</sup>

The marsh is fed mainly by the discharge of an underground aquifer that drains a small valley east of the Marmara settlement. It covers an area of 59.9 acres. The presence of water in the wetland is permanent.

It is covered by dense elliptical vegetation and has water-saturated soils and open water surfaces, which, although drastically shrinking, they are maintained even in the summer period. Among other things, the swamp has a value as the place of a great variety of water-loving vegetation, parking of migratory birds, breeding of waterbirds but also for the prevention of salinization of the upstream soils. The wetland receives mild pressure and nuisance mainly during the summer. In summer, its shore is used for swimming while it is assumed a little hunting activity in winter and grazing around. In the past, drainage canals were opened, which failed to drain the entire wetland.

Other uses and values served by the wetland are groundwater discharge, nutrient retention, food chain support, wildlife habitat and more. It is the habitat for birds [Anas querquedula, Calidris temminckii, Larus michahellis, Tringa glareola, Tringa sp, Ardea cinerea, Ardeola ralloides, Gallinula chloropus (nests in the wetland), Anthus pratensis], reptiles, amphibians, and fish. (WWF,2013)

The coastal road stopped its continuation to the beach. In addition, the three vertical roads opened for the service of tourist accommodation broke the cohesion of the swamp (WWF Hellas, 2013).

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<sup>7</sup>Habitats are found in the Molos swamp, 6420 - Mediterranean highlands with high poles and mudslides (Molinio-Holoschoenion), 72B0-Communities of high mounds, 1420 - Mediterranean and thermo-Atlantic allophilic ridges (Arthroicemet) - Sergeants of juniper beaches (Juniperus spp.) 1410 - Mediterranean foxglove (Juncetalia maritimi), 2110 - Random moving dunes, and 2195 - Cavities between the dunes With beds of logs and mounds.



Figure 8. Source: WWF Hellas, 2013



Figure 9. Molos Wetland, Source: WWF Hellas, 2013

#### **4. Impact of the new project on society and the environment**

##### **4.1. During construction**

According to the Program Plan of the Final Study of phase A, which took place in October 2014, as provided by the current legislation, a Special Ecological Assessment must be prepared regarding the environmental issues.

The area 'Kaminaki', as mentioned above, belongs to the Special Protection Zone GR4220025. There are three species of birds in the area, whose main habitat is the rocky shores.

"The installation of the project at the Kaininaki site may act as a deterrent to the presence of these species in this area. The initial assessment is that due to the very small area occupied by the project in relation to the total area, the cohesion of the

SPZ will not be disturbed and the species living there will not be affected. In any case, these issues will be addressed in the Special Ecological Assessment which should be prepared in the context of the Environmental Study of the project proposal as provided by the current legislation." (Preliminary Determination of Environmental Requirements, 2014)

The *Posidonia Oceanica* seagrass, located in the wider offshore area, is not affected by the project. However, in the specific ecological assessment, their presence within the watershed should be investigated. In addition, excavation materials should be deposited outside these areas.

During the construction of the project, an increase in the noise level from the construction machinery and transportation vehicles is expected, which, however, will disappear with the completion of the projects. In general, the noise from the work varies depending on the phase of the construction work, and the machinery used.

There will be sources of gaseous pollution during the construction of the project. More specifically, pollutive emissions from the various machinery (trucks, excavators, loaders, etc.) are expected. During construction there will also be dust from excavations and work on non-asphalt surfaces, as well as more general emissions. The exhaust emissions from the machinery of the construction site will be a direct burden to the atmosphere. As a standard, all construction equipment must be equipped with EU certificates provided by current legislation.

There will also be effects in the sea due to the installation and operation of floating machines at the construction sites, the locally necessary excavations of the seabed (dredging works), the construction of new quays, the embankments for the creation land and sea disposal of materials from dredging (any disposal at sea should also take into account the arrangements for the areas where Poseidon meadows have been identified).

However, the effects on the marine waters of the area are assessed as negative only when they cause a change in water quality.

It is noted that the Ephorate of Underwater Antiquities awaits the underwater autopsy for any antiquities in the area.

#### 4.2 During operation

The installation of the new port under study may act as a deterrent to the presence of species in the area, both in the bay 'Kaminaki' and in the adjacent bay of Molos.

The initial assessment is that due to the small size of the area that is going to be occupied by the project, the cohesion of the SPZ will not be disturbed, and the species located within will not be affected. In any case, these issues must be considered in the Special Ecological Assessment mentioned above.



Figure 10. Studies on Kaminaki area , Source: Foni tis Parou, 2020

The effects on the atmospheric environment and noise emissions will be increased during the operation of the port, due to ship movements, the loading and unloading works, and other activities of the port. Increase of the noise levels are expected to exist on both sides of the port access roads from the traffic of freight vehicles.

Since the settlement of Marpissa and the tourist resort of Piso Livadi are close to the project, an appropriate computing toll is necessary to assess the atmospheric impact and noise levels both the construction and during the operation phases of the project. It should be noted that since October 2014 when the Environmental Impact Assessment, the landscape has changed, and new residential and hotel units have been built in Kaminaki Bay.

Finally, it is a matter of utmost importance, the study of the new road network that is necessary for the operation of the new commercial port. The effects of this

complementary infrastructure should be studied both for the construction and the operation phase of the project. On the one hand, the effects concerning the environment and the Natura area should be considered. On the other hand, equally important are the impacts on the traditional settlement of Marpissa and the tourist resort, Piso Livadi. This issue is of special interest, after the approval of the General Urban Plan of Paros in 2012. Indeed, the opening of roads and asphaltting within the Natura 2000 (category A) area, in question is explicitly prohibited by the General Urban Plan and therefore a disputable project. More specifically, the General Urban Plan reads: "Any other activity is prohibited, such as the asphaltting of existing roads, which are not asphalted, 6. the opening of new roads, rural, forest etc. " (General Urban Plan of Paros, 2012)

## **5. The Field Survey**

### **5.1 Survey Methodology**

The methodology adopted for the survey has been questionnaires to be addressed to random samples of the population (permanent and seasonal residents) of the Municipality of Paros.

The purpose of the research is to investigate the views of the respondents on the issue of the transfer of the commercial port from Parikia to the area of Kaminaki, the sustainability aspects of the project and possible contradictions between them.

Survey application time: The survey was conducted from August 15 to September 20

Target population - sampling frame: The target population of the present study was permanent and seasonal residents of the Municipality of Paros. Also due to the specificity of the topic, the population to which the questionnaires were addressed, was limited only to adults (over 18 years old).

The questionnaire "Report of thoughts and concerns for the transfer of the commercial port in the Kaminaki area" was structured in 3 sections and consisted of close-ended questions and open-ended questions ". Below are the sections of the questions:

- General demographics (age, sex, place of origin, place of permanent residence, professional status)
- Questions to record views in relation to the project's contribution to local development.
- Views regarding the environmental impact of the project

In Section A 'the respondents are asked to record the demographic data such as:

- Sex
- Age
- Place of origin
- Place of Permanent Residence
- Specific area of Permanent Residence or Origin
- Professional status

In section B the respondents are asked to express their opinions regarding the transfer of the commercial part of the port, in the area of Kaminaki and advantages/disadvantages for Local Development.

- Agreement or disagreement with the transfer of the commercial part of the port from the port of Parikia to the area of Kaminaki

- Evaluation of the development of the island after the transfer of the commercial port.
- Personal interest from the port transfer
- Judgement of the impact on residents' lives after relocation of the port.
- Evaluation of the incoming tourism after the transfer of the port.
- Evaluation of the impact of the port on the natural landscape of the area.
- Judgement of possible degradation/growth of businesses in the surrounding areas due to the new port.
- Anticipation of possible reduction of tourists to nearby destinations due to the new port.
- Importance of the natural landscape in the choice of the destination.
- Anticipation of improvement of ship handling conditions after the port transfer.
- Judgment of the degree of improvement of truck circulation on the island.
- Evaluation of possible tourist development of the island in general, as a result of the port transfer.
- Evaluation of the problems of the local community, during construction and port operation.
- Express of opinion on possible problems that will emerge in the surrounding areas as a result of the new port construction operation.

In the last section the respondents are asked to express their views on the environmental conditions of the area of the new port and possible impacts -during the construction operation of the project.

- Evaluation degree of the effects that will be caused to the wildlife due to the transport of the port.
- Selection of the phase during which the fauna of the area may be affected.
- Evaluation of the reversal of the project due to the neighboring area which is part of the Natura 2000 network.
- Propose possible alternatives.
- Assessment of the limitation on the economic growth for the sake of nature
- Assessment of the nature encroachment in the case of port's transfer

Finally, the option of recording a long text for the respondents to add information about their perceptions is included.

## **5.2. Findings**

Section A '- Demographic and General data

Personal details

A total of 94 people, permanent and seasonal residents, participated in the research.

The gender distribution is men 52.1% women 45.7% and non-binary gender 2.1%.

Φύλο  
94 απαντήσεις

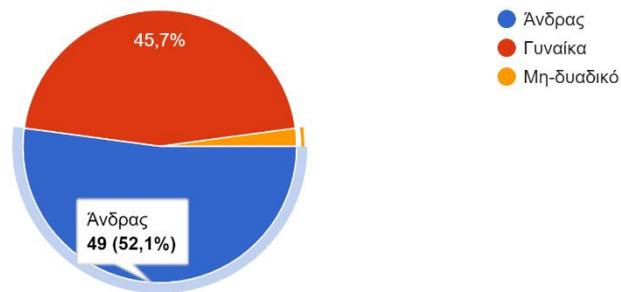


Diagram 01. Gender distribution, Source: author's elaboration

Regarding age, the distribution of people in the age groups appears relatively uniform in all age groups.

Ηλικία  
94 απαντήσεις

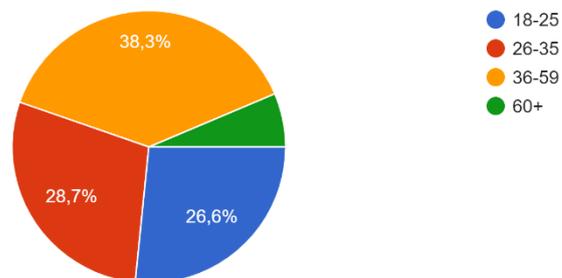


Diagram 02. Age distribution in the sample, Source: Author's elaboration

Regarding the place of origin, the majority of the respondents, at a rate of 66%, answered that they come from Paros.

Τόπος Καταγωγής  
94 απαντήσεις

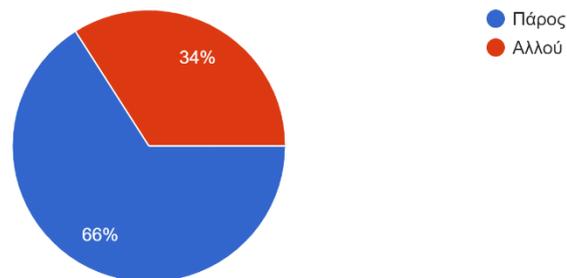


Diagram 03. Distribution of the respondents according to their place of origin, Source: Author's elaboration

64.9% respond positively to the fact that they live permanently in Paros, while the 35,1% live elsewhere.

Τόπος Μόνιμης Κατοικίας  
94 απαντήσεις

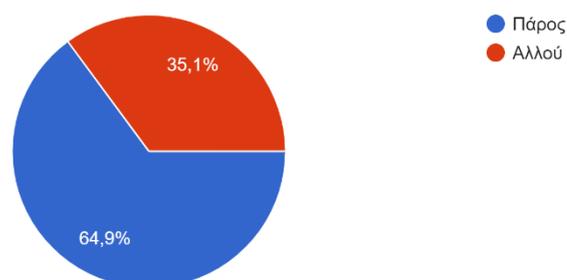


Diagram 04. Distribution of the respondents according to their permanent residence, Source: Author's elaboration

Regarding the occupational situation of the active population, private employees represent a percentage of 34%, followed by the self-employed with 30.9%. This

category is followed by students with 10.6% and civil servants with 6.4%, part-time employees with 6.4% and retirees with 6.4% as well. Finally, the unemployed are 3.2% of the total active population and those engaged in household chores represent 2.1%.

Επαγγελματική Κατάσταση  
94 απαντήσεις

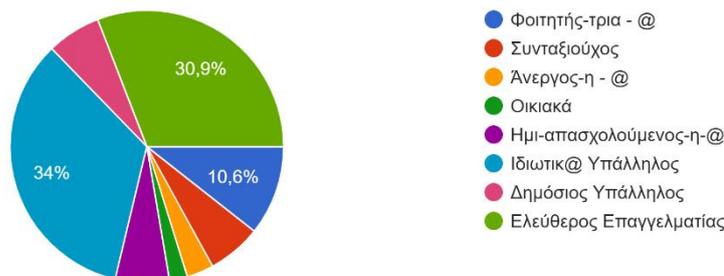


Diagram 05. Occupational status of the respondents , Source: Author's elaboration

### Section B - Questions for recording the views for the transfer of the commercial port to the area of Kaminaki.

The following are the diagrams of the distribution of percentages for the variables of the unit:

To the question "Do you agree with the transfer of the commercial part of the port in the Kaminaki area?", 78.7% answered that they do not agree with the transfer, while 21.3% agreed with it.

Συμφωνείτε με τη μεταφορά του εμπορικού τμήματος του λιμανιού στην περιοχή Καμινάκι;  
94 απαντήσεις

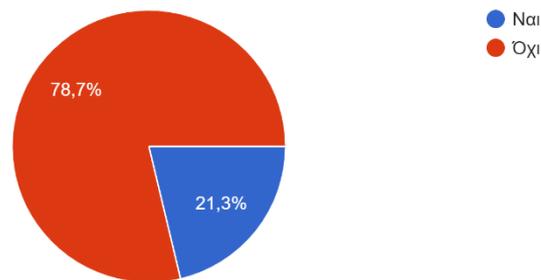


Diagram 06. Distribution of the replies to the question *"Do you agree with the transfer of the commercial part of the port to the Kaminaki area?"* , Source: Author's elaboration

The next question explores the opinion of individuals about the positive contribution of the port to the overall development of the island. To this question, 73.4% answered negatively while only 26.6% believe that the new commercial port at Kaminaki will help the development of the island.

Θεωρείτε πως η μεταφορά του λιμανιού, θα βοηθήσει την ανάπτυξη του νησιού;  
94 απαντήσεις

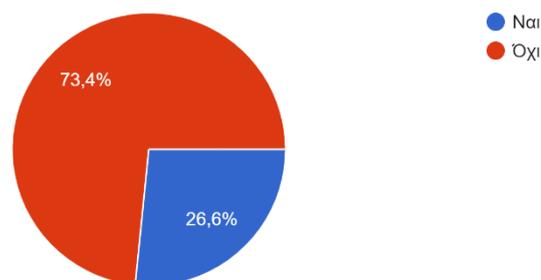


Diagram 07. Distribution of the positive and negative answers to the question *"Do you think that the transfer of the port will help the development of the island?"*, Source: Author's elaboration

It is then investigated whether the respondents believe that they can benefit from the transport of the port. 66% answered that they will not have a personal benefit, 11.7%

that the movement of the port does not concern them personally, 11.7% that they do not know, and only 10.6% believe that they will benefit from this movement.

Εσείς πιστεύετε πως θα ωφεληθείτε από την κίνηση αυτή;  
94 απαντήσεις

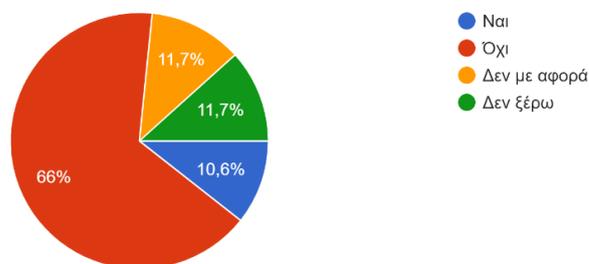


Diagram 08. Distribution of the positive and negative replies to the question "Do you think you will benefit from this move?", Source: Author's elaboration

Respondents then answer whether they believe that the relocation of the port is expected to affect the lives of residents in the surrounding areas. The vast majority of 85.1% answered that the life of the inhabitants in the surrounding areas will be negatively affected, while 7.4% believe that they will not be affected. Only 7.4% believe that the life of the inhabitants in the surrounding areas will be positively affected.

Η μετακίνηση του λιμανιού θα επηρεάσει τη ζωή των κατοίκων στις γύρω περιοχές;  
94 απαντήσεις

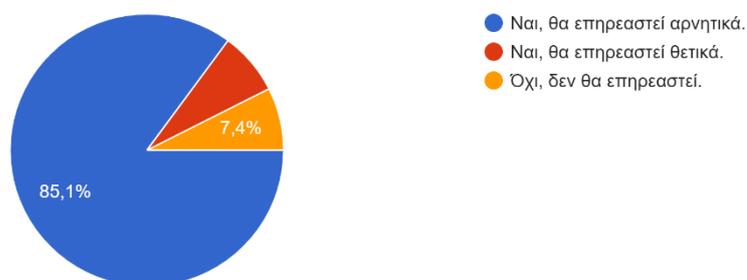


Diagram 09. Distribution of the replies to the question "Will the relocation of the port affect the lives of the inhabitants in the surrounding areas?", Source: Author's elaboration

Regarding the impact of the new port on tourism in the surrounding areas 70.2% believe that tourism in the surrounding areas will be negatively affected, 16% consider that tourism will not be affected and 13.2% think that tourism in the surrounding areas will be positively affected after the relocation of the commercial port.

Θα επηρεαστεί ο τουρισμός στις γύρω περιοχές;  
94 απαντήσεις

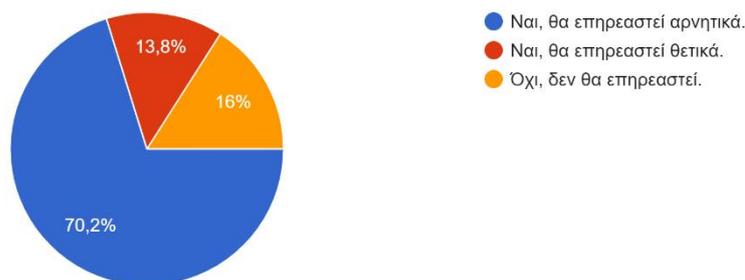


Diagram 10. Distribution of the responses to the question "Will tourism be affected in the surrounding areas?", Source: Author's elaboration

When asked whether the natural landscape of the wider area will be altered, 92.6%, i.e. almost the entire sample, answered positively, while only 7.4% believe that the natural landscape will not be spoiled.

Θα αλλοιωθεί το φυσικό τοπίο της ευρύτερης περιοχής;  
94 απαντήσεις

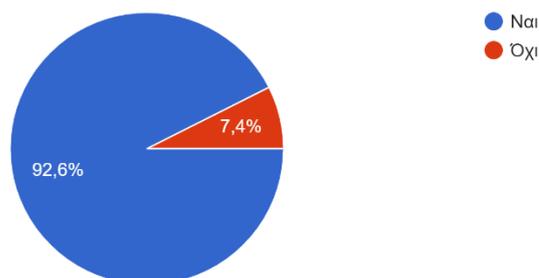


Diagram 11. Positive and negative answers to the question "*Will the natural landscape of the wider area be altered?*", Source: Author's elaboration

In the next question, respondents were asked to assess the possible downgrade of businesses in the surrounding areas due to the new commercial port. 30.9% thought that business downgrade is very likely, 12.8% of the people considered that downgrading of the companies is not at all possible and the rest of the sample was divided into intermediate categories.

Είναι πιθανή η υποβάθμιση των επιχειρήσεων των γύρω περιοχών εξαιτίας του νέου λιμανιού;  
94 απαντήσεις

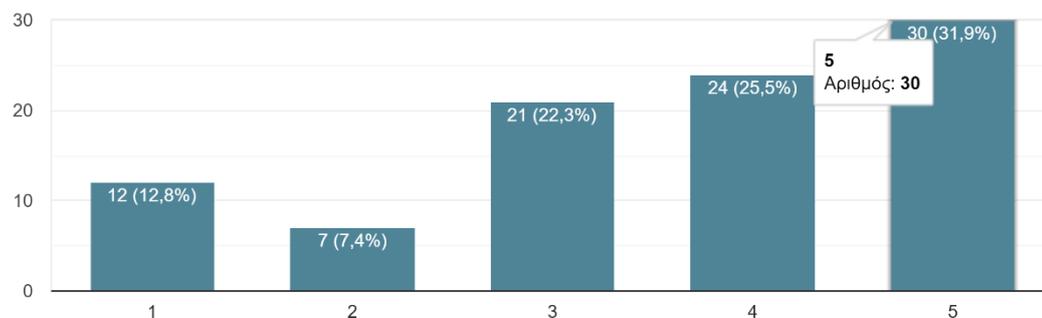


Diagram 12. Distribution of the replies to the question "*Is it possible that the businesses in the surrounding areas will be downgraded due to the new port?*", Source: Author's elaboration

This was followed by a query about of the possible decrease of tourists in the nearby destinations due to the new port, in which 28.7% of the sample considered the reduction to be very probable and 12.8% considered that the reduction of tourists in the surrounding areas, it is not at all possible.

Είναι πιθανή η μείωση των τουριστών στους κοντινούς προορισμούς εξαιτίας του νέου λιμανιού;  
94 απαντήσεις

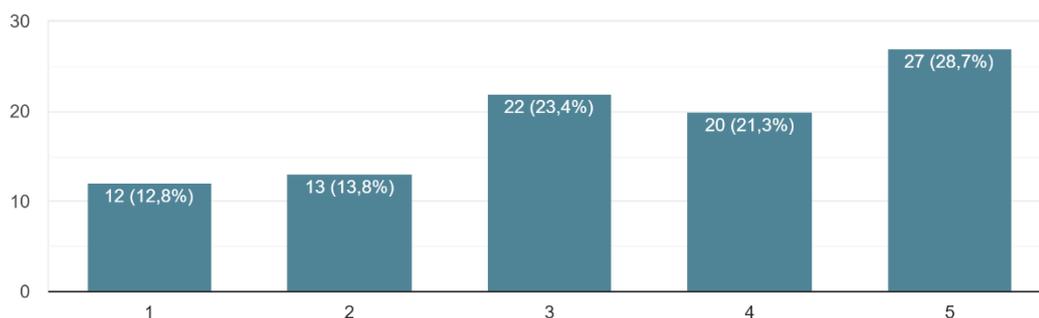


Diagram 13. Distribution of the replies to the question "Is it possible that the number of tourists in the nearby destinations will decrease due to the new port?", Source: Author's elaboration

In addition, 60.6% of the sample considered that the natural landscape is very important for the choice of the tourists' destination and only 2.1% considered that it does not play a role at all. The remaining low percentages were divided into intermediate categories.

Παίζει ρόλο το φυσικό τοπίο στην επιλογή του προορισμού;  
94 απαντήσεις

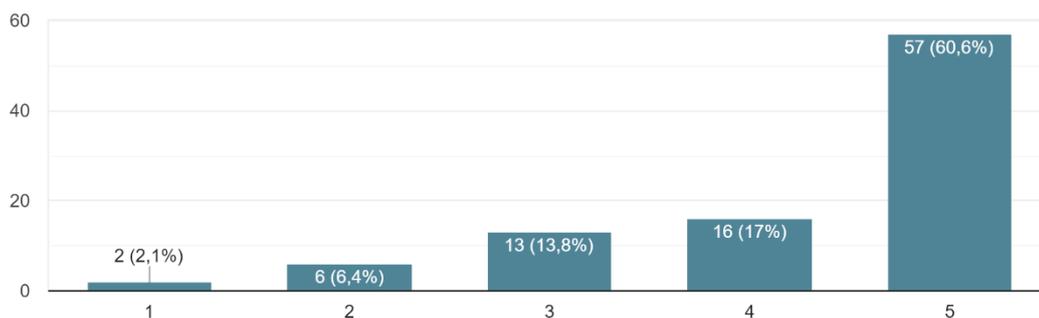


Diagram 14. Percentage distribution of the replies to the question "Does the natural landscape play a role in the choice of destination?", Source: Author's elaboration

To the question, "To what extent is the new port in the Kaminaki area expected to improve the traffic conditions of the island's ships?" the answers split into several categories: 34% said that it is a neutral change, it will not improve or impair the traffic conditions on the island. The 23,4% replied that the new port will not help at all, the 21,3% said that it will help a little bit, the 16% said that it will help quite a lot and only the 5,3% agreed that the new port will really help a lot to the traffic conditions on the island.

Σε τι βαθμό το νέο λιμάνι στην περιοχή Καμινάκι αναμένεται να βελτιώσει τις συνθήκες διακίνησης των πλοίων του νησιού;  
94 απαντήσεις

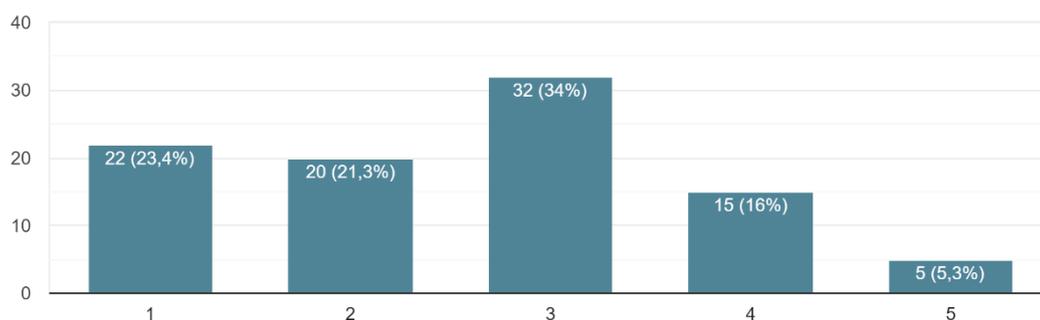


Diagram 15. The answers to the question "To what extent is the new port in the Kaminaki area expected to improve the traffic conditions in the ports of the island?",  
Source: Author's elaboration

Respondents were asked to assess whether the traffic of trucks on the island will improve. 34% thought they would not improve at all and only 7.4% thought they would improve a lot.

Σε τι βαθμό το νέο λιμάνι στην περιοχή Καμινάκι αναμένεται να βελτιώσει τις συνθήκες διακίνησης των φορτηγών οχημάτων του νησιού;  
94 απαντήσεις

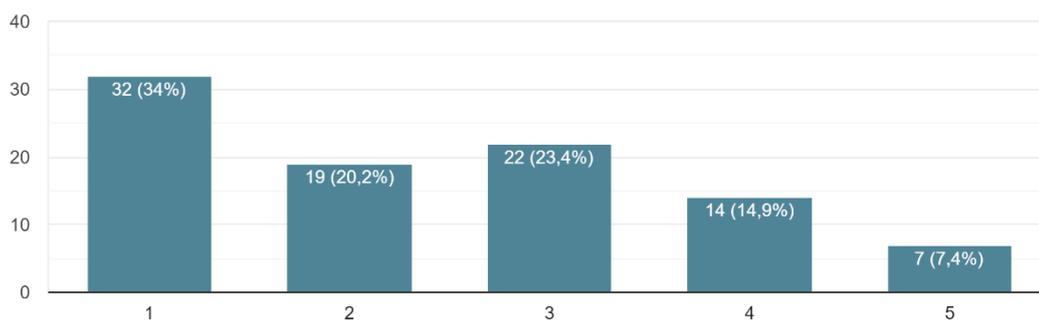


Diagram 16. Distribution of the percentage answer to the question "To what extent is the new port in the Kaminaki area expected to improve the traffic conditions in the ports of the island?", Source: Author's elaboration

The individuals were then asked to answer whether the relocation of the commercial port would lead to the tourist development of the island in general. 35.1% believe that this move will not help at all in the tourist development of the island and only 5.3% believe that the port will enhance the tourist development of the island. The remaining are distributed into intermediate categories.

Σε τι βαθμό η μετακίνηση του εμπορικού τμήματος του λιμανιού θα οδηγήσει στην τουριστική ανάπτυξη του νησιού εν γένει;  
94 απαντήσεις

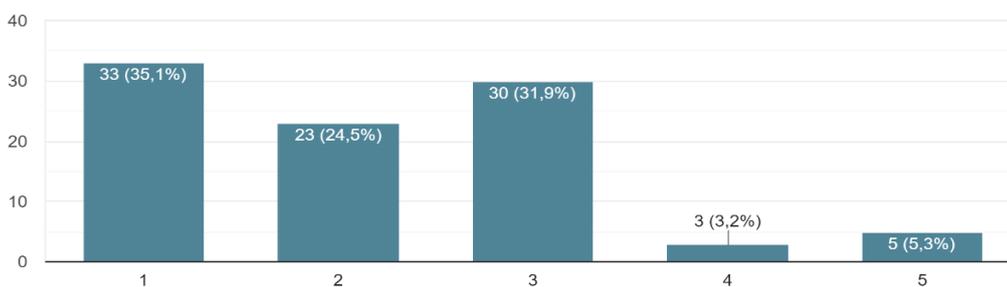


Diagram 17. Distribution of the responses to the question "To what extent will the relocation of the commercial part of the port lead to the tourist development of the island in general?", Source: Author's elaboration

87.2% of the respondents believe that the port at Kaminaki will cause problems in the local community, both during its construction and operation phases.

Πιστεύετε ότι η μεταφορά του εμπορικού λιμανιού στο Καμινάκι, τόσο κατά την κατασκευή όσο και κατά την λειτουργία του θα δημιουργήσει προβλήματα στην τοπική κοινωνία;  
94 απαντήσεις

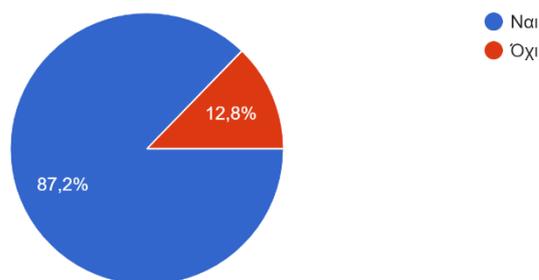


Diagram 18. Positive and negative answers "Do you think that the transfer of the commercial port to Kaminaki, both during its construction and during its operation, will create problems in the local community?", Source: Author's elaboration

If the respondents answered yes to the previous question, they are asked to clarify what kind of problems are likely to be caused. 85.7% believe that problems can be caused in the road network owing to circulating trucks for the transport and distribution of goods. 84.5% believe that there will be a damage in the identity of the area. 73.8% believe that noise pollution will be caused by ships and vehicles and 65.5% believe that there may be a general degradation of the place, that is going to affect adversely the clientele and economic situation of the tourism companies.

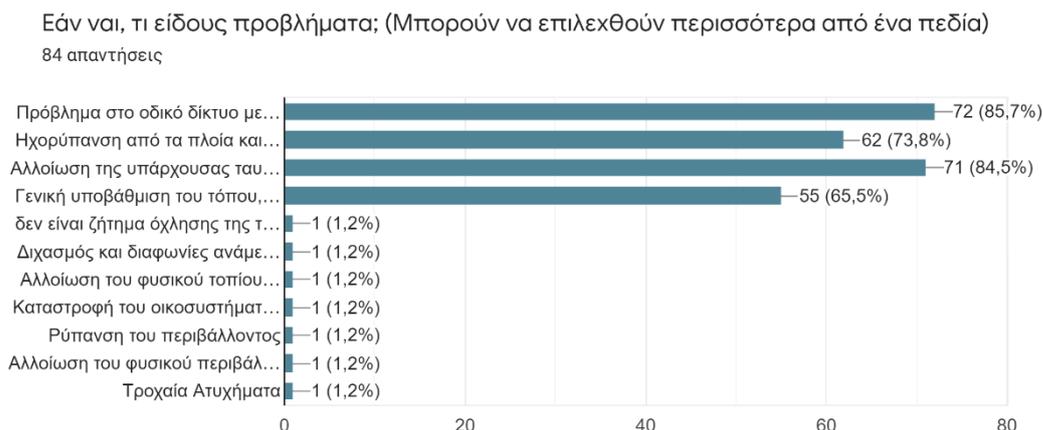


Diagram 19. The answers of the respondents to the question "What kind of problems will the local communities suffer?" , Source: Author's elaboration

### Section C Nature and Wildlife

In the first question of the third section, 60.6% of respondents believe that wildlife will be affected by such a project.

Σε τι βαθμό επηρεάζεται η άγρια πανίδα από ένα τέτοιο έργο;  
94 απαντήσεις

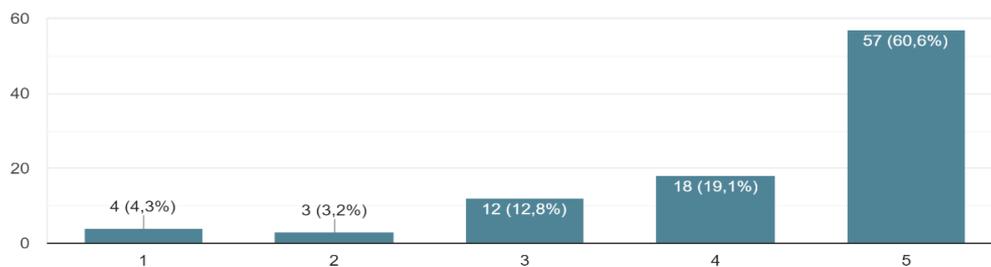


Diagram 20. Distribution of the answers to the question "To what extent is wildlife affected by such a project?" , Source: Author's elaboration

In the second question of the third section, the vast majority of respondents 81.9% answered that the fauna will be affected both during the construction and during the operation of the port. 12.8% believe that the fauna will be affected only during the construction of the project and 5.3% believe that the fauna will not be affected.

Η πανίδα θα επηρεαστεί :  
94 απαντήσεις

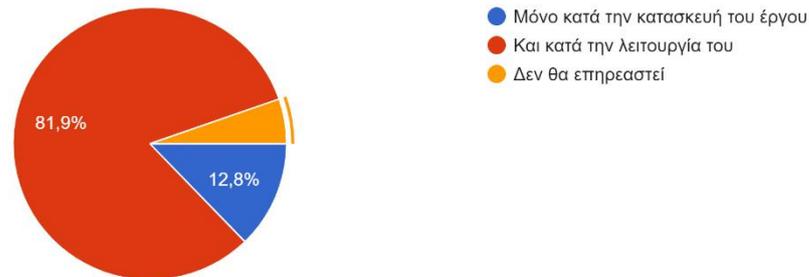


Diagram 21. Distribution of the answers to the question "Will the fauna be affected?" , Source: Author's elaboration

Then, 77.7% of people think that the fact that the area is classified as protected and belongs to the Natura 2000 network is enough to act as a deterrent to the Kaminaki point.

Το γεγονός ότι η περιοχή χαρακτηρίζεται ως προστατευόμενη και ανήκει στο δίκτυο Natura 2000, είναι αρκετό για να δράσει ως ανασταλτικός παράγοντας της επιλογής του σημείου "Καμινάκι";  
94 απαντήσεις

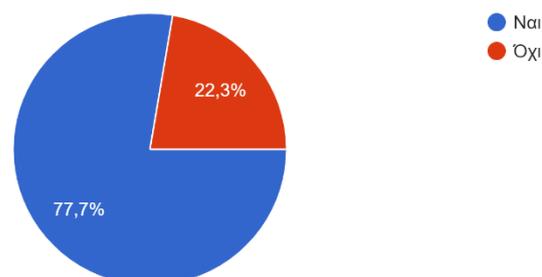


Diagram 22. Positive and negative replies to the question "Is the fact that the area is designated as protected and part of the Natura 2000 network, enough to act as a

*deterrent to the selection of the 'Kaminaki' point for the relocation of the commercial port?"* , Source: Author's elaboration

67% of the respondents considered that if deemed necessary alternatives can be found, 23.4% answered that they do not know if alternatives can be found and 9.6% answered that it is impossible to find alternatives.

Θεωρείτε πως αν κριθεί αναγκαίο μπορούν να βρεθούν εναλλακτικές λύσεις;  
94 απαντήσεις

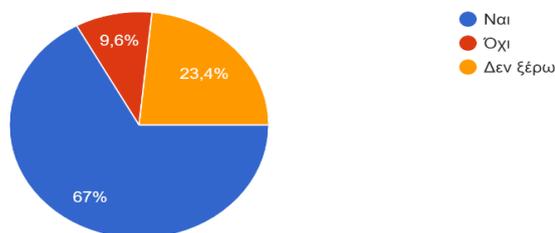


Diagram 23. Answers to the question "*Do you think that if deemed necessary, alternative solutions for relocation of the commercial port can be found?"* ,

Source: Author's elaboration

85.1% of respondents agree that there should be a restriction on tourism and economic development when nature is violated while, 14.9% consider that this is not necessary.

Αξίζει να μπαίνει περιορισμός στην οικονομική και τουριστική ανάπτυξη όταν καταπατάται η φύση;  
94 απαντήσεις

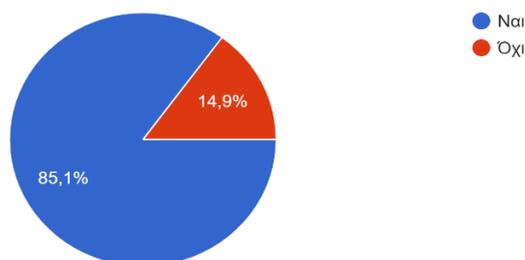


Diagram 24. Positive and negative answers to the question "Is it worth restricting economic and tourism development when nature is being trampled on?" , Source: Author's elaboration

Finally, 75.5% believe that in the case of relocation of the commercial port to Kaminaki, nature is irreparably violated. 13.8% think that there will be no problem, and 10.6% answered that they do not know the answer to the query.

With respect to the position (agreement or disagreement with the movement of the port) of different age groups, the following table and diagram are instructive:

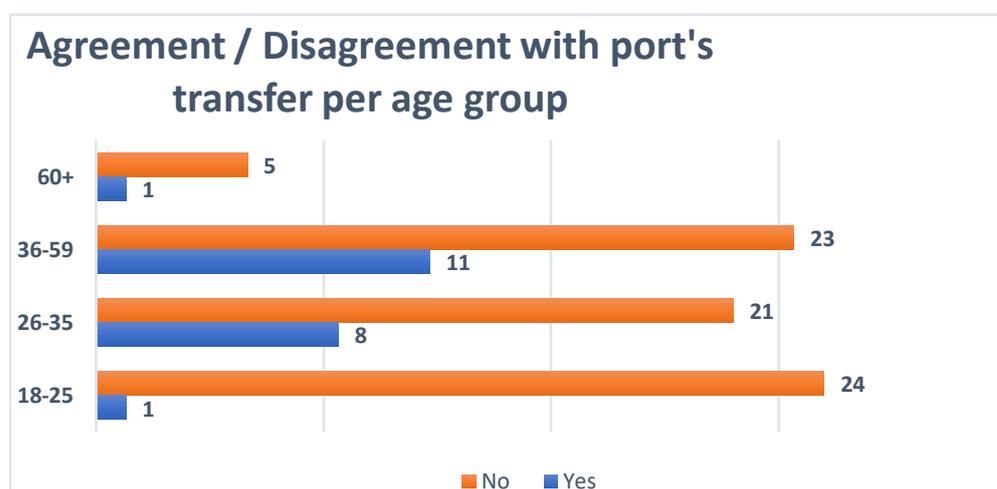


Diagram 25, Source: Author's elaboration

In the above recording, we observe that there is uniformity regarding the positive answers for the transport of the port, between the productive ages of 26-59.

Although, in all different categories the negative answers are way more than the positive ones. Of particular interest is the age group of 18-25 in which, out of the 25 people who answered only 1 agreed with the transfer of the port.

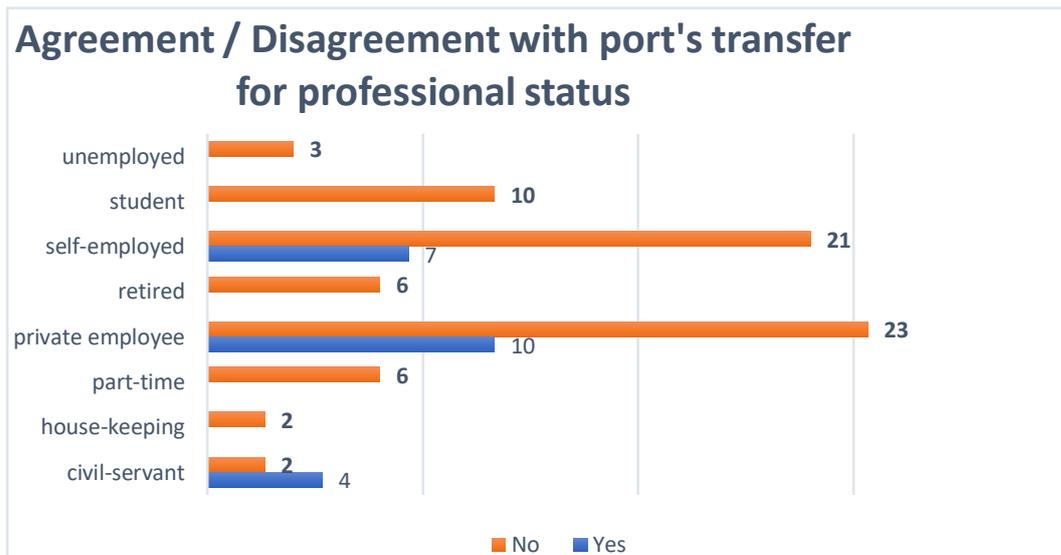


Diagram 26, Source: Author's elaboration

The diagram indicates that both all the unemployed people in the sample and all the students at a rate of 100%, were negative regarding the movement of the port. However, the case of civil servants is interesting, as they are the only category where the percentages in favor of moving the port exceeds the percentages against moving.

Then some comparisons were made between the positive answers regarding the relocation of the port and the impact it will have, both in terms of the environment and in terms of the life of the inhabitants in the surrounding areas.

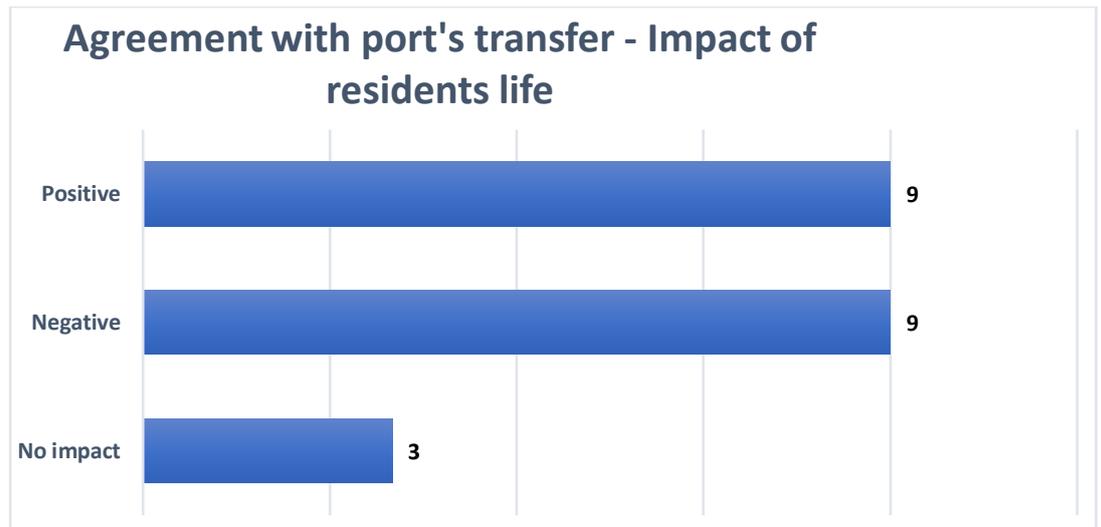


Diagram 27, Source: Author's elaboration

The above comparison shows that out of the total of 21 people who responded positively to the relocation of the port of Paros, 9 believe that the new location of the port will have a negative impact on the lives of residents in the surrounding areas.

Also:

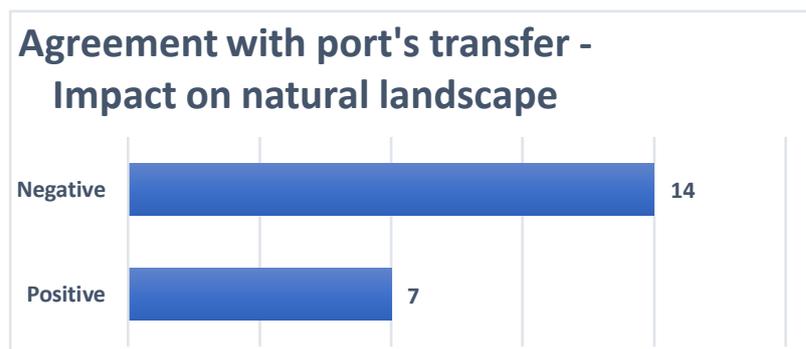


Diagram 28, Source: Author's elaboration

Of the total number of 21 people who responded positively to the port's move, 14 believe that the natural landscape will be altered. Therefore, 2 out of 3 people who consent to the transfer of the port, believe that there will be a negative impact on the natural landscape.

### **3.3 Conclusions**

To conclude:

The purpose of this paper was to examine at a theoretical level the contradictions that arise within a system of sustainable development. For this purpose, historical references were made to explore both the need for sustainable development and references to contradictory points of the term.

Reference was then made to the island of Paros, presenting its social and economic infrastructure, as well as spatial planning, its environmental characteristics, and protected areas. It contributes a historical review of the area and an extensive report on its characteristics to the case study.

From the above, it emerged that both the wetland of Molos (that is located at less than 2 km from the point of interest 'Kaminaki'), as well as the coastal zone, is a particularly sensitive ecosystem.

The goal of sustainable development is to minimize the adverse effects caused by human activities, as the concept of sustainability involves satisfying the needs of the present without jeopardizing the ability of future generations to meet their own needs.

Then it emerged that the existing port is showing weaknesses and is, in fact, currently unable to serve the entire volume of ships arriving on the island of Paros. The new

port, therefore, will contribute to the improvement of ship traffic. This conclusion is not derived from the research but rather from the theoretical study. A new port of Paros will also give margin for new activities and investments on the island.

Consequently, the first phase of the environmental study was carried out, while the second-mandatory phase is expected. So far, results of the study show that the activities both during the construction of the port and during its operation will contribute to the environmental degradation of the area. However, this problem can possibly be reduced with appropriate environmental protection measures. Also, based on this study, the effects from the construction and operation of the new port are considered comparatively negligible, as long as they comply with the regulations and provisions that are expected to be defined in the second phase of the environmental study.

Regarding the statistical results of the survey, a key point is that the vast majority of the sample do not agree with the port transfer. Respondents in large percentages believe that the surrounding areas will be significantly affected, as these are picturesque small villages of tourist interest. Also, the majority considered that the natural landscape would be irreparably altered (Paronaxia passage, coastline, and the terrestrial environment), a fact that obviously contributed to their disagreement with the point 'Kaminaki' as more suitable for a commercial port of aggregates. The permanent and seasonal inhabitants of the island appear to be particularly aware of the local communities and the environment. It is worth mentioning that 96% (24 out of 25) of the age group 18-25 years disagree with the transfer of the port, while the entire sample of students also do not agree with the project.

In addition, it seems that civil servants are more friendly to the project, as it is the only category that voted in favor of the construction of the port over all other professional situations that voted against the project.

In summary, taking into account the evaluation of the proposal by the residents of the area and knowing the needs and in combination with the data of the approved study, the influence of the creation of the new port is under consideration. As the second

phase of the environmental study has not been completed, the extent of the damage that will be probably caused may not be clear at this time. In addition, it may be helpful to review the problems that residents and businesses in the surrounding area will face before the projects begin. Finding an alternative to the project may be necessary in the event that the site is eventually declared unsuitable. Alternatively, if the Kaminaki site is selected as the most appropriate, the extensive studies by experts on the subject, the strict environmental constraints, and the continuous inspections may successfully reduce the environmental impact and result in a more positive outlook for the new port.

In conclusion, as far as the local community is concerned, it should be informed in detail about the project; both about the limitations and about the positive effects that are expected. Additional information should be provided on both the environmental constraints and the measures that will be taken in order not to damage the businesses and the communities of the inhabitants of the area. In this way, reactions will be limited, and the unanimity of the residents will be strengthened, which is most necessary for the implementation of this project.

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