TOURISM-ENVIRONMENT ANALYSIS:
THE CASE STUDY OF GLYFADA

Josep Boyra Amposta
Sant Ignasi Tourism School, University Ramon Llull
josep.boyra@stignasi.fje.edu

ABSTRACT
This exploratory work aims to further the study of the interdependent bonds which characterize the relationship between tourism and the environment, promoting wider perspectives and a more holistic approach to environmental matters and related practices involved in tourism, travel, hospitality and leisure sectors, which are nowadays essential to ensure and sustain excellence of tourist destinations. That is to acknowledge the relevance of the role that each territory and its particular environment plays in any tourism development process while considering the concept of a tourist area cycle of evolution and its implications for management of resources. In this sense, the quality and the competitiveness of any local tourism industry is submitted along time to different factors of environmental change that are not exclusively due to just tourism production and consumption processes. In fact, alike as one of many other economic activities competing in a territory, tourism development needs to be planned and managed within a sustainable and integrated framework at different spatial scales if environmental excellence of tourist destinations wants to be enhanced and guaranteed.

Sustainable development on global and local scale basis comes forth nowadays as the renewed paradigm of an old outlook, that is, the wise use of resources in order to guarantee development process success in the long term run. As a new paradigm of development, sustainability has being adopted by a growing number of local authorities and tourist entrepreneurs worldwide. Therefore sustainable development has being seen by the tourism industry as an opportunity competent in resources quality conservation through integrated policy, planning and management. Thus, the basic principles which define sustainable development are being introduced on the tourism sector during the past two decades giving tourism the opportunity to gradually assume the challenge to put forward a strategy towards sustainability in order to effectively contribute to sustainable development on a global scale.

Notwithstanding, tourism industry is facing a series of difficulties to go from theoretical principles to practice. Thus, and despite the attractiveness and the necessity for achieving a more sustainable tourism development, its implementation proves to be extremely difficult due the complex nature of development processes and its multiple stakeholders, interests and values. The full paper intends to analyze in the first place several factors of environmental change that affect a tourist destination along its evolution cycle, verifying and identifying for this purpose some of the existing interdependent bonds within the conceptualization of a tourism/environment system. The analysis will continue after through a seashore tourist municipality case study to illustrate the impact of environmental change on the tourist destination activity and dynamism both in terms of demand and supply. Afterwards, the research will focus on management practices responses in order to contribute with a series of proposals to define a set of measures aimed at minimizing the negative impact on the environment resulting from the local tourist activity in the considered municipality. The impact of regional and global factors of environmental change that affect the municipality as a tourist destination will be also discussed. Finally, a series of conclusions derived from the analysis conducted will be presented.
INTRODUCTION

This exploratory work aims to further the study of the interdependent bonds which characterize the relationship between tourism and the environment, promoting wider perspectives and a more holistic approach to environmental matters and related practices involved in tourism, travel, hospitality and leisure sectors, which are nowadays essential to ensure and sustain the excellence of tourist destinations. That is to acknowledge the relevance of the role that each territory and its particular environment plays in any tourism development process while considering the concept of a tourist area cycle of evolution (Butler 1980) and its implications for management of resources. In this sense, the quality and the competitiveness of any local tourism industry is submitted through time to different factors of environmental change that are not exclusively due to just tourism production and consumption processes. In fact, alike as one of many other economic activities competing in a territory, tourism development needs to be planned and managed within a sustainable and integrated framework at different spatial scales if environmental excellence of tourist destinations (Wight, 1998) wants to be enhanced and guaranteed.

Sustainable development on global and local scale basis comes forth nowadays as the renewed paradigm of an old outlook, that is, the wise use of resources in order to guarantee development process success in the long term. As a new paradigm of development, sustainability has being adopted by a growing number of local authorities and tourist entrepreneurs worldwide. Therefore sustainable development has being seen by the tourism industry as an opportunity competent in quality resources conservation through integrated policy, planning and management (Briassoulis, 2002; Butler, 1998; Coccossis, 1996). Thus, the basic principles which define sustainable development are being introduced in the tourism sector during the past two decades giving tourism the opportunity to gradually assume the challenge to put forward a strategy towards sustainability in order to effectively contribute to sustainable development on a global scale. Notwithstanding, tourism industry is facing a series of difficulties to go from theoretical principles to practice. Thus, and despite the attractiveness and the necessity for achieving a more sustainable tourism development, its implementation proves to be extremely difficult (Avgerinou-Kolonia, 1998; Lagos, 1988; Swarbrooke, 1999) due to the complex nature of development processes and its multiple stakeholders, interests and values.

Globalization and the new internationality of the tourist perspective have transformed any place into an appealing potential destination. As a result, travel and tourism figures show global increase share in world-wide economy (Hillel, 2002). Nevertheless, increasing tourism flows harm the environment on a global scale whereas tourist destination development alters environmental conditions on a local scale. Thus, international tourism growth implies more and more a greater pressure on natural resources. Therefore, and in order to minimize a series of negatives impacts on world’s natural environment brought about by international tourism growth, it is imperative to adopt an integrated and holistic approach capable of assessing the different agents and stakeholders involved in development processes.

With this in mind, the study of tourism development and its impacts on the environment needs to be conceptualised at different scales if a real progress towards a more sustainable development of tourism wants to be achieve (Hall, 1998). Thus, global, regional and local analysis is essential to grasp the existing interdependent relationship between tourism and the environment and its implications for territorial management of resources.
The global scale

On a global scale it is necessary to stress the role that the transportation phase plays within the existing tourism/environment system. In fact and due to the spatial concentration in the destination of both production and consumption processes the demand is unavoidably forced to travel to consume tourist services. Therefore, the transportation phase derived from the territorial and geographical specificity of tourist destinations is responsible for the ensemble of domestic and international tourist flows. International tourist arrival figures, in the last decades, are shown in Figure 1.

![Figure 1](image)

However, most of the different means of transportation used to guarantee tourist flows are consuming non renewable resources producing in turn a series of pollutant emissions into the atmosphere. Thus, both processes have collateral negative impacts on the environment on a global scale. There is no doubt that the growth of the transportation industry plays a fundamental role as it increases the total number of tourist arrivals and expands the development of new tourist spaces and products worldwide. In this sense, sophisticated means of transportation put within reach nowadays the most distant and remote tourist destinations on Earth.

Tourism transportation is consequently contributing to the gradual exhaustion of several non renewable energy resources, meanwhile multiple evidences on climate change - in particular global warming- are threatening the environment on a planetary scale undermining in this way the existing model of development adopted on a global scale. To illustrate the implications of our present type of development it is worth mentioning that “the 6.000 millions inhabitants of the planet are consuming in fossil fuels in just one year what the Earth spent to store as geological deposit a million years....it is evident that our conduct is unsustainable. We just not burn non renewable resources but we also pollute” (Martín Vide 2003:33).
In this context, the transportation industry is allowing a fast growth of tourist flows that unavoidably contribute to deteriorate the general environment characterizing thus the present sign of the relationship within the tourism-environment system on a global scale. In this sense, it is expected that air traffic will multiply by two in 2020 due mainly to the tourist sector development (European Agency for the Environment, 2003). Therefore, it is necessary to stress that even managing responsibly tourist destinations, that is to say, acting locally in a friendly environmental way it is not possible to solve the negatives impacts on the global environment derived from the transportation phase which is intrinsically united with tourism practices. International warnings as Djerba Declaration reflect indeed the links between tourist transportation phase and climate change which as it is known constitutes nowadays a major environmental threat for ourselves as well as for the flora and the wildlife of the planet Earth. In this sense the First International Conference on Climate Change and Tourism, held in Tunisia in April 2003 final declaration recognizes the key role of the Kyoto Protocol as a first step in the control of greenhouse emissions in the line with the concerns, pursuits and activities of the United Nations in the field of climate change, and more generally, in that of sustainable development.

This assessment brings up the complex relationships between tourism and climate change particularly the impacts that the latter are producing upon different types of tourism destinations while not ignoring that transport used for tourist movements and other components of the tourism industry contribute in return to climate change. The international community acknowledgement that tourism is now fully integrated in the consumption patterns of many countries makes it necessary to encourage the tourism industry, including transport companies, hoteliers, tour operators, travel agents and tourist guides, to adjust their activities, using more energy-efficient and cleaner technologies and logistics, in order to minimize as much as possible their contribution to climate change. Therefore the analysis of the relationship between tourism growing flows and its impacts on the environment on a global scale implies to further the study of the environmental alteration factors generated during the transportation phase towards tourist destinations. Such a study exceeds the objectives of the present investigation, nevertheless further research is fundamental for the consecution of a steady improvement of the relationship between tourism and the environment on a global scale.

The local scale

On a local scale the tourism-environment system is subjected to two fundamental variables. The first one is the location of the destination and its environment. Both together define the characteristics and the structure of its tourism market, inasmuch as the environment is the support and the primordial resource of the destination supply as well as the principal attraction for the demand that frequents it. The second variable is constituted by the particular evolution of the location throughout the length of the process of tourist development in its territory, which defines in every moment the characteristics of the tourist market structure and the extent of the environmental alteration derived from tourism practices on the destination (Boyra, 2005). Thus, the processes of production and consumption of tourist services assembled in a specific geographical space that is in a particular destination enable the study of the existing interactions within the tourism-environment system during the operational phase. As a matter of fact, the tourist operational phase implies different production and consumption processes which cause a series of negatives impacts on natural resources that gradually contribute to diminish the environmental quality of the tourist destination. As a result, the environment is defined by its duality along the tourism development process as resources provider and at the same time as depot of multiples residues (Furió Blasco, 2002). In this sense, the study of the interactions within the tourism-environment system during the operational phase at the destination aims to identify the existing relationship between the tourist activity and its environment in order to improve as much as possible the sign of their relationship. Therefore, tourist operational assessment on a local scale is a key issue to preserve environmental excellence in a long lasting way at the destination.
TOURISM-ENVIRONMENT SYSTEM ANALYSIS ON A LOCAL SCALE: 
THE CASE STUDY OF GLYFADA

Glyfada is a seashore municipality located southwest of the Athens Metropolitan Area which is one of the four districts that constitute the Administrative Region of Attica. The Region (see Figure 2) has an area of 3,808 km² and contains 3,761,810 inhabitants representing more than 35% of the total population of Greece. The natural features of Glyfada and its particular location near the centre of Athens impelled by the beginnings of the last century, during the so called “Belle Époque”, the outcome of a flourishing tourist industry in the locality. Nevertheless, the municipality of Glyfada had suffered an environmental decline derived from the gradual demographic concentration and fast urbanization process of Athens in the last fifty years. As a consequence of the intense Athenian growth several negative impacts on the environment have being degrading the general environmental conditions of Attica (Theohari & Banoutsos, 1993) on a regional scale.

Figure 2
Map of the Administrative Region of Attica

Thus, tourist activity in Glyfada has being dropping since the middle of the 1980 decade due mainly to the fact that its environmental conditions were not suitable anymore or appealing enough to a tourist demand looking for better nature preserved destinations. Different factors of environmental change on
a regional scale explain in this way the current stagnation of Glyfada as a tourist destination. Therefore, it is necessary to stress that environmental decline on a regional scale affects negatively tourist economy activity on a local scale.

During the 1930 decade the popularity of Glyfada as a leisure locality was undeniable due to its famous bathing facilities (see Figure 3) that institutionalized for the first time in Greece the so called “Bains Mixtes”. After the Second World War, Glyfada enjoyed an equivalent popularity as a tourist resort. The turning point in this trend took place about the middle of the 1980 decade when different factors of negative environmental impact and its accumulative effects on a regional scale contributed to deteriorated the ensemble of Glyfada’s natural resources. At the same time, the arising of new tourist destination competitors both on a national and international level determined a spatial redistribution of tourist flows limiting thus Glyfada’s competitiveness as a tourist destination.

Figure 3
The Bathing Facilities of Glyfada in 1930

ANALYSIS OF THE INTERDEPENDENT RELATIONSHIP BETWEEN TOURISM AND THE ENVIRONMENT IN GLYFADA

The following analysis stems from two different perspectives which focus on two opposite directions in order to further the study on the nature of the interdependent relationship existing between tourism and the environment. Thus, the first one aims to verify how environmental decline on a regional scale harms tourist destination competitiveness on a local scale. For this purpose several factors of
environmental change which have contributed to Glyfada’s decline as tourist resort are presented. Afterwards, the analysis is completed from the second perspective which aims to prove the existence of several negative impacts on the environment due to tourist activity on a local scale. For this, Glyfada’s tourist activity itself is assessed and a series of environmental minimizing measures are proposed.

From the first perspective, the urban growth of the Athens Metropolitan Area and its generic territorial implications on adjacent areas (Davis, 1965) have brought a series of radical and successive demographic changes in the municipality that have both deeply transformed Glyfada’s physiognomy and landscape. Table 1 illustrates the differences between Glyfada’s population growth rates and those of the Athens Metropolitan Area in the last decades. The greater rate of population growth registered in Glyfada has implied the inclusion of the municipality within the boundaries of the Athens Metropolitan Area. As a result of this demographic evolution Glyfada faces today several of the negative environmental impacts that threat the quality of life of the Athenian metropolitan population. In this sense, it is important to stress that the urban growth phenomenon is a main characteristic of the industrialized world, intrinsically related to the spatial concentration of production and consumption processes upon which the existing global model for the economic growth is mainly based on.

<table>
<thead>
<tr>
<th>Year</th>
<th>Glyfada</th>
<th>Athens</th>
<th>Period</th>
<th>Glyfada</th>
<th>Athens</th>
<th>Glyfada</th>
<th>Athens</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951</td>
<td>8.256</td>
<td>1.378.586</td>
<td>1951-1961</td>
<td>4.105</td>
<td>474.123</td>
<td>33%</td>
<td>26%</td>
</tr>
<tr>
<td>1981</td>
<td>44.018</td>
<td>3.027.331</td>
<td>1981-1991</td>
<td>19.288</td>
<td>45.591</td>
<td>30%</td>
<td>1%</td>
</tr>
<tr>
<td>2001</td>
<td>80.409</td>
<td>3.187.734</td>
<td>1991-2001</td>
<td>17.103</td>
<td>114.812</td>
<td>21%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Nevertheless, the current model of economic growth is bringing a series of negative impacts on the environment limiting thus its own probabilities of success in the long-run (Wolfgang et al. 1998). Therefore, it is essential to take into account the different means of production and consumption and its impacts on the environment to preserve the quality of territorial natural resources on a regional scale. Otherwise economic activities, and in particular tourism, will be characterized by an increasing lack of competitiveness on a local scale as the case study of Glyfada seems to indicate. It is time to summarize now some of the factors of environmental change identified on a regional scale affecting Glyfada’s competitiveness as a tourist destination on a local scale, which are mainly related to the Athenian urban growth:

- Saturation of urban space -
- Contamination of coastal waters -
- Contamination and deterioration of air quality -
- Traffic congestion -
- Acoustic contamination -
- Urbanization of the coastal strip -
- Shortage of energy and water resources -
- Solid waste -
These different factors of environmental impact have implied a gradual degradation of Glyfada’s natural resources contributing therefore to diminish the quality of the tourist experience as well as its level of satisfaction. This way, a frequentation’s tourist demand steady decrease has been registered in the past decades in the municipality. It is necessary to stress in particular the impact on the environment caused by the contamination of coastal waters specially those from the Saronic Gulf.

Coastal waters contamination has indeed had as a direct consequence the environmental quality lost of one of the most important natural assets of tourist attraction for Glyfada, being thus the locality every time less popular as a seafront tourist resort for bathing. Thus as long as the deterioration of natural conditions keep degrading the environment on a regional scale, the competitiveness of the tourist destination will be threatened on a local scale.

As a result of the declining demand, Glyfada’s local tourist industry itself has been radically transformed during the past decades. In particular local hoteliers, which represent the big majority of the accommodation supply have seen dramatically reduced the number of hotels units.

Thus, a gradual and heavy accommodation’s capacity loss, as shown in Table 2, has being registered in Glyfada since 1985.

### Table 2

<table>
<thead>
<tr>
<th>Year</th>
<th>Hotels</th>
<th>Rooms</th>
<th>Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>49</td>
<td>2.453</td>
<td>4.573</td>
</tr>
<tr>
<td>1990</td>
<td>41</td>
<td>2.109</td>
<td>3.942</td>
</tr>
<tr>
<td>1991</td>
<td>38</td>
<td>1.998</td>
<td>3.733</td>
</tr>
<tr>
<td>1992</td>
<td>35</td>
<td>1.795</td>
<td>3.350</td>
</tr>
<tr>
<td>1993</td>
<td>34</td>
<td>1.785</td>
<td>3.324</td>
</tr>
<tr>
<td>1994</td>
<td>33</td>
<td>1.774</td>
<td>3.302</td>
</tr>
<tr>
<td>1995</td>
<td>30</td>
<td>1.662</td>
<td>3.113</td>
</tr>
<tr>
<td>1996</td>
<td>28</td>
<td>1.608</td>
<td>3.016</td>
</tr>
<tr>
<td>1997</td>
<td>27</td>
<td>1.554</td>
<td>2.908</td>
</tr>
<tr>
<td>1998</td>
<td>28</td>
<td>1.562</td>
<td>2.930</td>
</tr>
<tr>
<td>1999</td>
<td>27</td>
<td>1.537</td>
<td>2.897</td>
</tr>
<tr>
<td>2000</td>
<td>26</td>
<td>1.520</td>
<td>2.876</td>
</tr>
<tr>
<td>2001</td>
<td>26</td>
<td>1.520</td>
<td>2.876</td>
</tr>
<tr>
<td>2002</td>
<td>21</td>
<td>1.192</td>
<td>2.244</td>
</tr>
<tr>
<td>2003</td>
<td>21</td>
<td>1.192</td>
<td>2.244</td>
</tr>
</tbody>
</table>

From the second perspective, and in order to completely verify the interdependent bonds which characterize the existing relationship between tourism and the environment in Glyfada it is essential to consider now several factors of environmental change derived from its own tourist activity. With this purpose some of the main contributors that have a detrimental effect on the environment are identified.
The main tourist contributors considered on a local scale are:
- Hotel units -
- Infrastructures and facilities -
- Leisure activities related to vacations or stays -

Among these main contributors, tourist infrastructures and facilities in Glyfada have been playing over the last years a major role as factors of environmental change on a local scale. They are mainly represented by its golf course and its five seaports that added together have a total capacity of more than 800 moorings. These very lucrative nautical leisure infrastructures have nevertheless radically transformed the morphology and the landscape of Glyfada’s coastline limiting consequently its public access for bathing.

It is also important to recall in this respect that several negative impacts on the environment derived from seaports during its construction phase as well as during its operational phase have been thoroughly described and assessed by different authors as Hunter (1995). Unfortunately, the construction of these infrastructures and facilities was carried out without any previous environmental impact assessment. That is due to the fact that there were built before 1986, that is to say, before this kind of environmental protection procedure was setup and implemented in Greece (UNCSD, 2000) following a specific directive legislation on EIA adopted by the European Commission and ratified by the European Council Guideline 85/337/CEE in 1985.

ASSESSMENT, OPTIONS AND PROPOSALS TO MINIMIZE THE IMPACT OF TOURIST MAIN CONTRIBUTORS

In order to minimize the different factors of environmental change due to Glyfada’s tourist activity in its entirety, a series of measures inspired by OECD environmental indicators (OECD, 2003) are proposed to monitor the operational phase of the main tourist contributors that have a detrimental effect on the environment.

- Proposal of environmental minimizing measures for hotel units:

1. To monitor and to assess energy consumption for gradual savings of water and electricity.
2. To monitor and to assess air condition and refrigerator systems and its CFC’s emissions which contribute to the destruction of the ozone layer, gradual replacement of those systems by new ones using HCFC’s gases less harmful to the atmosphere.
3. Recollection and recycling of kitchen oils.
4. Reduction and recycling of fungibles materials.
5. Continuous environmental training for hotel management executives.

These different minimizing measures for hotel units should be implemented through voluntary environmental management and certification systems as EMAS or ISO-14001.
Proposal for systematic control and assessment of energy consumption, emissions and solid waste in tourist infrastructures and facilities:

1. To monitor and to assess energy consumption for gradual savings of water and electricity.
2. Assessment and reduction of pollutants in seaport waters.
3. Use of residual waters for golf course irrigation.
4. Reduction of fertilizers and biocides for golf course maintenance.
5. Continuous environmental training for golf course management executives.

As for hotel units, the different environmental minimizing measures for tourist infrastructures and facilities should be implemented through voluntary environmental management and certification systems as EMAS and/or ISO-14001.

Proposal for environmental improvement of leisure activities related to vacations or stays:

1. Litter baskets installation and daily cleansing of Glyfada’s beaches.
2. Presence of watchmen to safeguard the integrity of swimmers.
3. Delimitation of recreational marine areas through mark buoys.
4. Effective communication of Glyfada’s socio-cultural activities to tourists.
5. Tourist sensitization about environmental matters.

This series of environmental improvements should be implemented by the local authorities of Glyfada with the aim to achieve a higher level of satisfaction in leisure activities, ensuring in this way the quality of tourist experience in the long term.

For a successfully implementation of the ensemble of measures proposed it is essential to put forward an integrated program impelled both from the city council of Glyfada and the tourist private sector of the municipality.

Therefore, this program should unavoidably count on the active participation of the different private tourist stakeholders concerned as well as the local community.

Likewise, governmental support on a regional and national scale would be necessary to ensure its objectives. This kind of coordinated action would represent another significant step for the promotion of a global sustainable development strategy on an international level.

With this in mind, the final action program proposed on a local scale should be implemented through the application of the methodology established by the Local Agenda 21 which is nowadays recognized as the most suitable instrument to guide the development process towards sustainability.
CONCLUSION

If the diversification and intensification of the tourism sector does not take the environment into account it will accelerate environmental decline limiting thus its contribution to sustainable development on a global scale. It is important to recall in this sense the significant role played by the transportation phase in tourist practices. In this respect it has to be stress that the use of fossil fuels for tourist transportation and its polluting effects are obvious problems for the preservation of the environment, unless alternative non-polluting energies sources become available at competitive prices for consumers. Otherwise, the continued economic growth of the tourism sector itself might be severely affected in the future. In order to avoid this threat it is essential to systematically integrate environmental indicators in tourist development processes.

These indicators must be based on the principle of causality, integrating sequentially the concepts of pressure, state, and response. Their implementation on a local scale is fundamental to ensure the conservation of destination’s natural resources and therefore its own tourist competitiveness. Only if the use of indicators for the assessment of development processes become generalized it is possible to achieve environmental excellence in tourist destinations. To go forward in this direction it is essential that private and public sectors work together in implementing this kind of control mechanisms. Likewise in general people need to be more aware of the economic threats that environmental degradation brings to societies, in the manner of adopting a more coherent attitude towards the natural environment. This challenge depends on how much sustainable principles can be spread worldwide through intercultural mutual acknowledgement and cooperation.

In this respect, Greece and the European Union in general can be considered promoters for sustainability inasmuch as they have been introducing a series of measures aimed at planning development over the last decades. In particular, multiple efforts to preserve the natural resources of the Administrative Region of Attica have been made by the Greek administration helping thus to improve both the quality of life of its local population and the tourist experience of its visitors. In this context, the municipality of Glyfada faces nowadays a new challenge. That is to mitigate negative environmental impacts generated throughout the length of the operational phase of its tourist supply. The series of measures proposed for Glyfada would like to contribute to preserve the beauty and the excellence of its natural environment.

REFERENCES


